WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
OREGON

UNITED STATES DEPARTMENT of AGRICULTURE···SOIL CONSERVATION SERVICE

and

OREGON AGRICULTURAL EXPERIMENT STATION

and

STATE ENGINEER of OREGON

Data included in this report were obtained by the agencies named above in cooperation with other Federal, State and private organizations.

AS OF
MAR. 1, 1962

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Cooperative Snow Survey and Water Supply Forecast Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Fortunately, most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from fore-knowledge of the runoff.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, about 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

By relating snow survey measurements taken over a period of years to spring-summer runoff during the same period, relationships have been developed which make it possible to forecast seasonal runoff several months in advance of occurrence. In order to make a forecast, once a forecast relationship has been developed, the maximum snow water content at previously selected key snow courses is usually entered in the forecast relationship. More accurate forecasts are often obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast relationships.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions.

PUBLISHED BY SOIL CONSERVATION SERVICE

REPORTS	ISSUED	LOCATION	COOPERATING WITH
RIVER BASINS			
Colorado and State of Utah	Monthly (Jan.-June)	Salt Lake City, Utah	Utah State Engineer and Other Agencies
Columbia	Monthly (Jan.-May)	Boise, Idaho	Idaho State Reclamation Engineer
Upper Missouri and State of Montana	Monthly (Feb.-June)	Bozeman, Montana	Mont. Agr. Exp. Station
West-Wide	Oct. 1, Apr. 1, May 1	Portland, Oregon	All Cooperators
STATES			
Alaska	Monthly (Mar.-May)	Palmer, Alaska	Alaska S.C.D.
Arizona	Semi-Monthly (Jan.15 - Apr.1)	Phoenix, Arizona	Salt R. Valley Water Users Assoc. Ariz. Agr. Exp. Station
Colorado and New Mexico	Monthly (Feb.-May)	Fort Collins, Colorado	Colo. Agr. Exp. Station Colo. State Engineer N. Mex. State Engineer
Idaho	Monthly (Feb.-May)	Boise, Idaho	Idaho State Reclamation Engineer
Nevada	Monthly (Jan.-May)	Reno, Nevada	Nevada Dept. of Conservation and Natural Resources Division of Water Resources
Oregon	Monthly (Jan.-June)	Portland, Oregon	Ore. Agr. Exp. Station Oregon State Engineer
Washington	Monthly (Feb.-June)	Spokane, Washington	Wn. State Dept. of Conservation
Wyoming	Monthly (Feb.-June)	Casper, Wyoming	Wyoming State Engineer

Copies of these various reports may be secured from:

Head, Water Supply Forecasting Section
Soil Conservation Service
P.O. Box 4170, Portland 8, Oregon

PUBLISHED BY OTHER AGENCIES

REPORTS	ISSUED	AGENCY
British Columbia	Monthly (Feb.-June)	Comptroller, Water Rights Br., Dept. of Lands and Forests, Parliament Bldg., Victoria, B.C., Canada
California	Monthly (Feb.-May)	Calif. Dept. of Water Resources, Sacramento, Calif.

USDA-SCS-PORTLAND, OREG. 1961

WATER SUPPLY OUTLOOK
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FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
OREGON

ISSUED

MARCH 8, 1962

Report prepared by

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209 S.W. 5TH AVE., PORTLAND 4, OREGON

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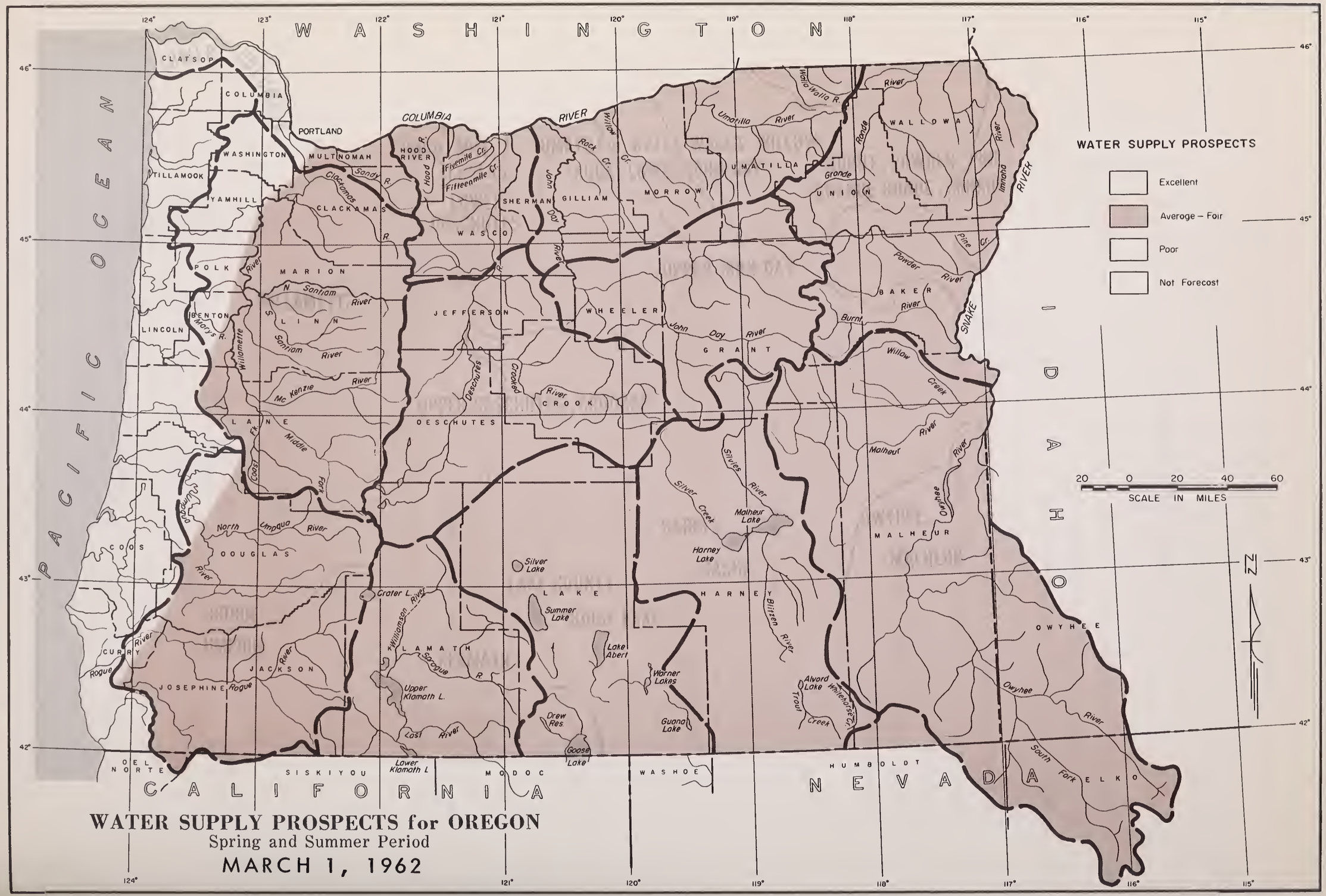


WATER SUPPLY PROSPECTS for OREGON

Spring and Summer Period

MARCH 1, 1962

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

7-0-19102-1-1

WATER SUPPLY OUTLOOK for OREGON

MARCH 1, 1962

Oregon's 1962 irrigation water supplies should be adequate although the situation will call for careful water management to "stretch" the water supplies in many areas of the state. Shortages of stored water create special problems in the southeastern counties and in Umatilla County for water users depending on McKay reservoir.

SNOW COVER:

Water content of the mountain snowpack varies from a low of 40 percent below the March 1 average in the Hood River - Wasco County area to a high of 18 percent greater than average in the Lake County area.

Current snow surveys on 200 snow courses indicate the total snowpack on a state-wide basis averages about 12 percent below the average March 1 accumulation. Month-end storms now adding to the total snowpack have not been included in the present analysis.

Watershed conditions are such that a "Chinook" occurring in the next few weeks could produce runoff of proportions greater than expected in present forecasts.

SOIL MOISTURE:

Moisture in the top 3 or 4 feet of soils under the mountain snowpack has been adequately replaced below about 5000 feet elevation. Above this elevation the soils are still relatively dry and will take up some of the early snowmelt water.

RESERVOIR STORAGE:

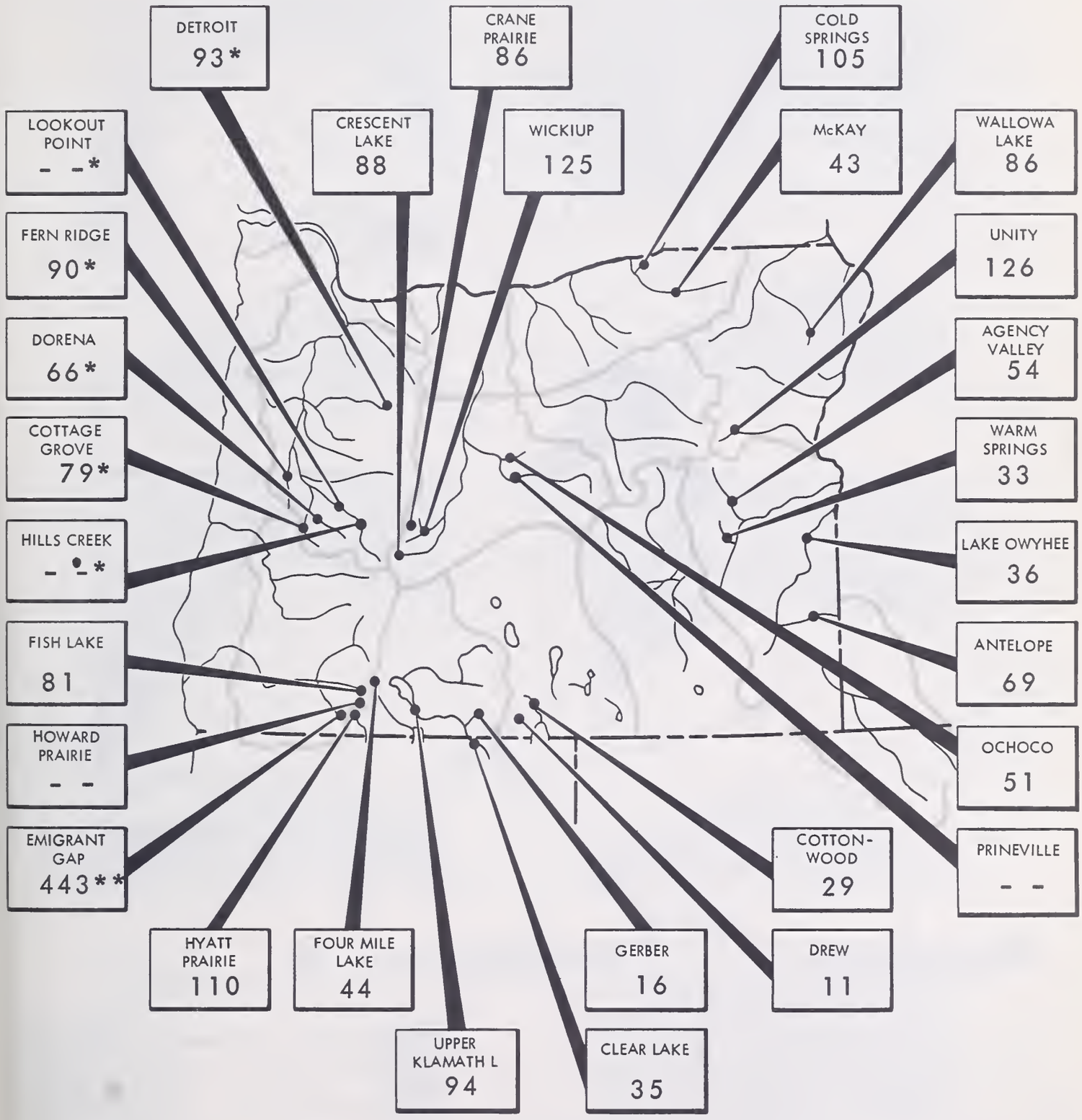
Water stored in 21 irrigation reservoirs now totals 37 percent below average and 15 percent less than last year at this time. The greatest shortages are still found in the southeastern counties and in McKay reservoir in Umatilla County.

STREAMFLOW:

Streamflow forecasts now range from 63 percent of the 1943-57 average for the Owyhee to 113 percent for the Silvies. Most of the forecasts for streams in the southeastern tier of counties have raised slightly.

STORAGE STATUS of OREGON RESERVOIRS
as percent of 1943-57, 15 year average

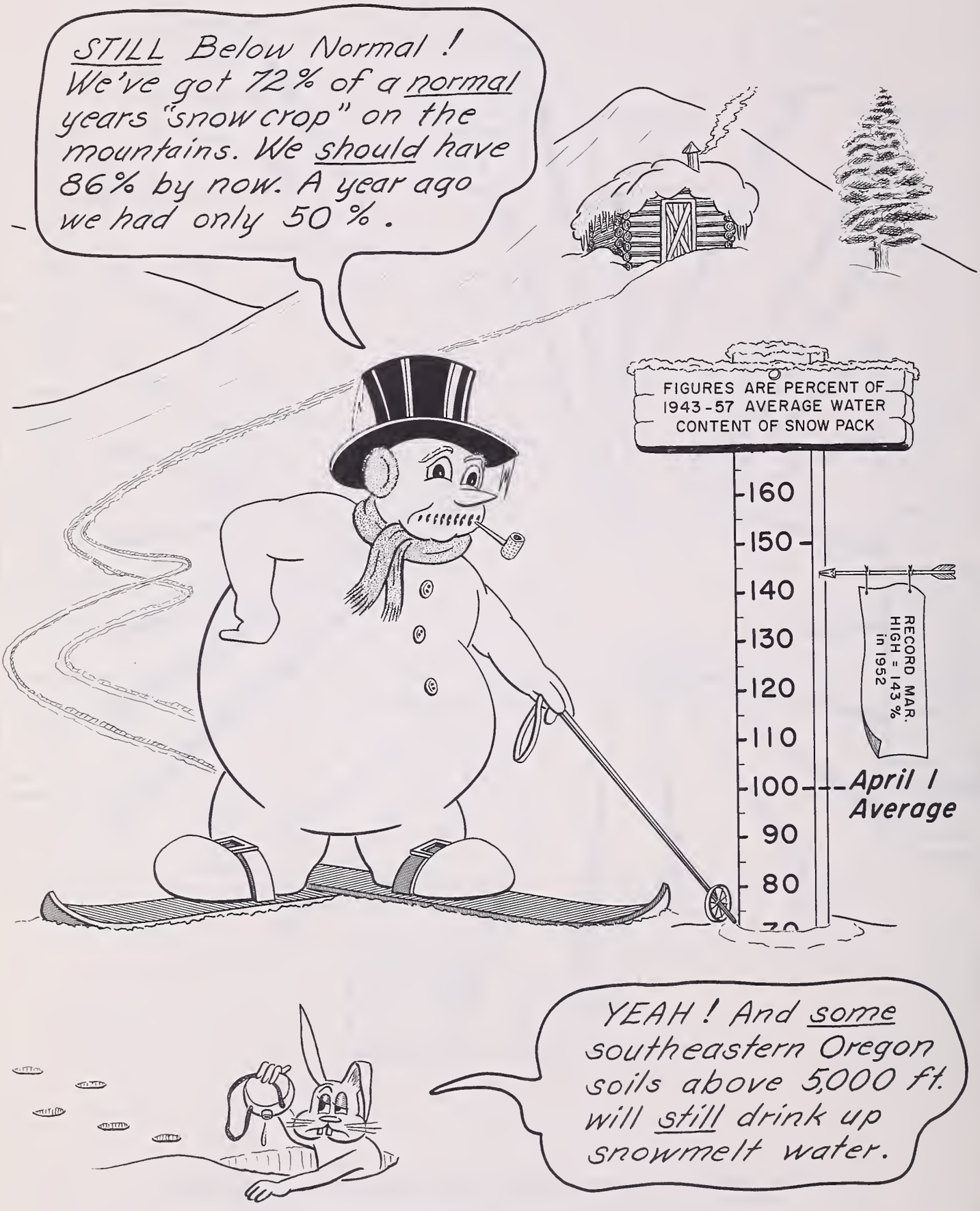
MARCH 1, 1962



*- *Multiple purpose reservoir - space reserved primarily for flood runoff.*
N.R. - *No report.*
**- Capacity of reservoir greatly increased but current storage compared with previous average.
-- Short record - no average for comparison

OREGON SNOW PACK ACCUMULATION

AS OF MARCH 1, 1962

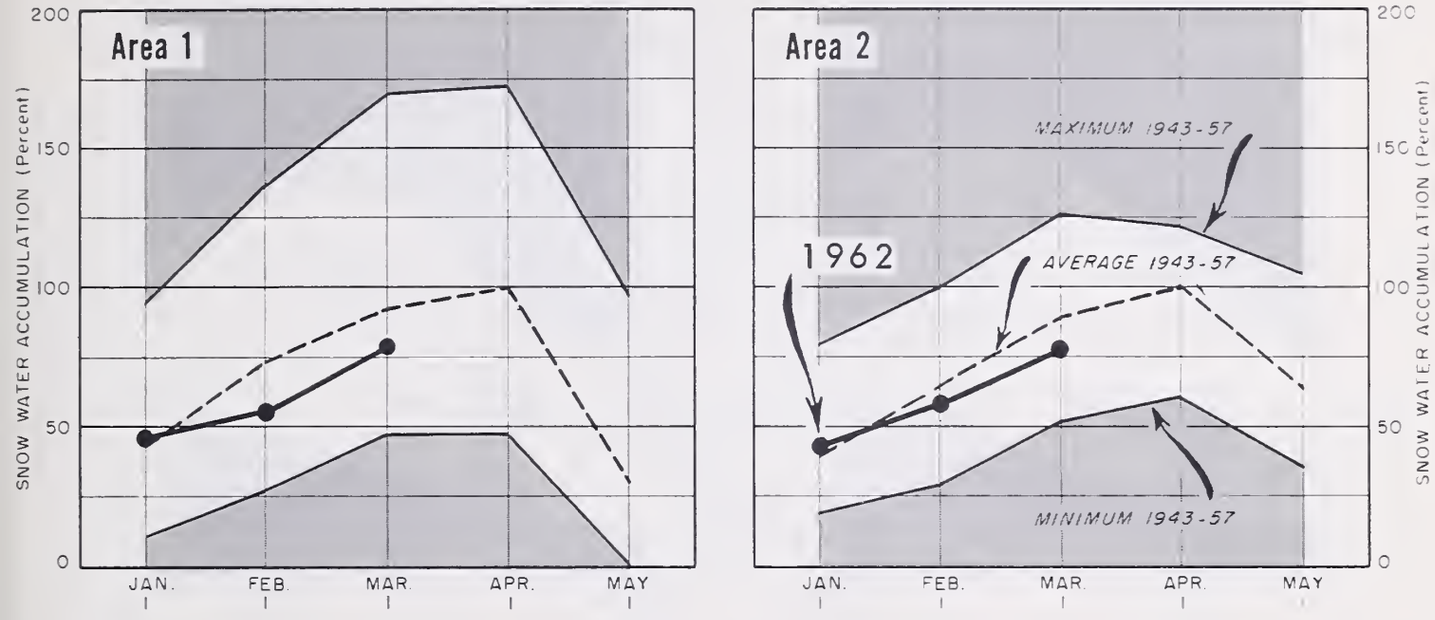


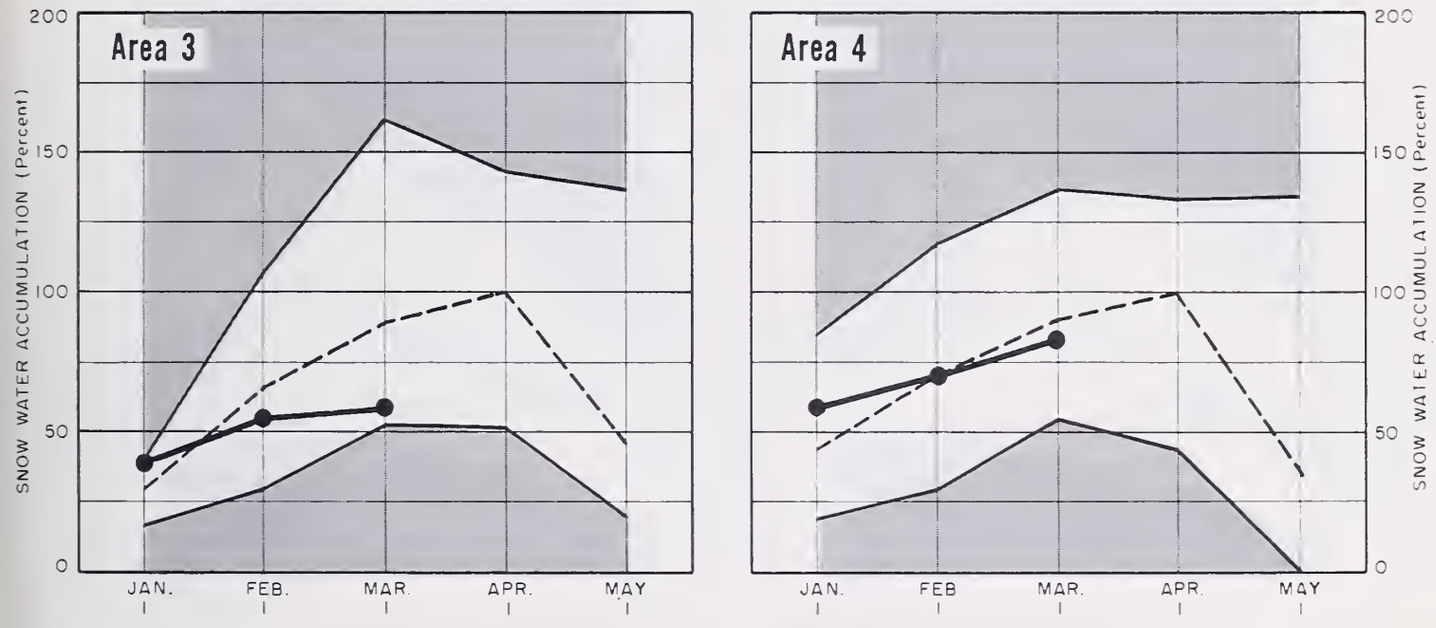
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

SNOW WATER ACCUMULATION in OREGON

(Percent of average maximum accumulation)

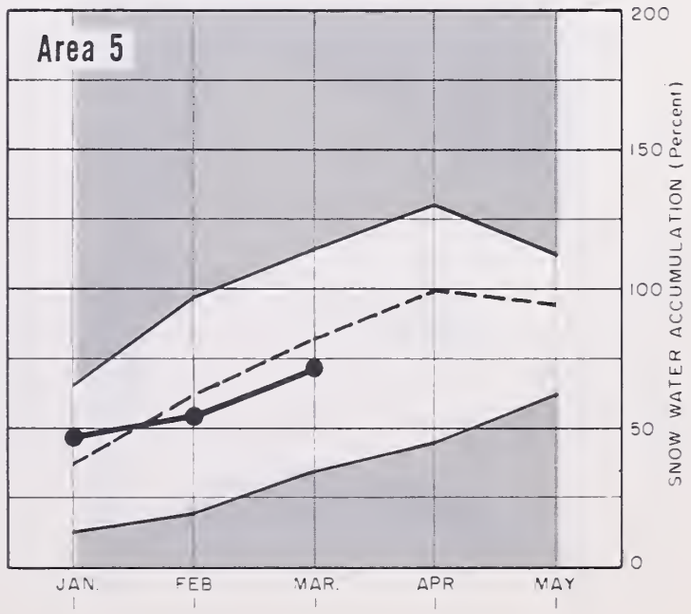
MARCH 1, 1962





WATERSHED AREA LOCATIONS

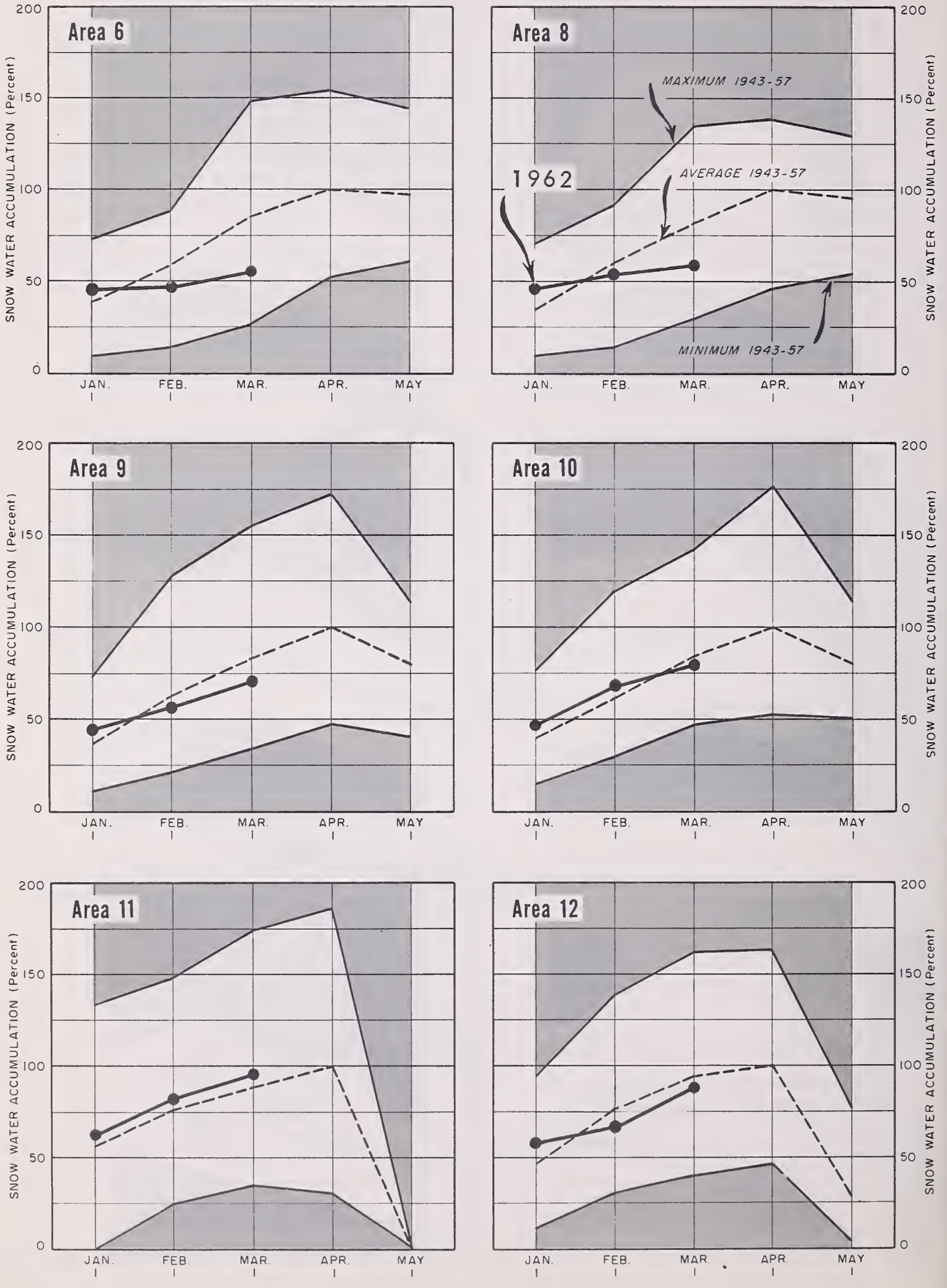
AREA 1 . OWYHEE, MALHEUR WATERSHEDS
AREA 2 . BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS
AREA 3 . UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS
AREA 4 . UPPER JOHN DAY WATERSHEDS
AREA 5 . UPPER DESCHUTES, CROOKED, WATERSHEDS
AREA 6 . HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS
AREA 7 . LOWER COLUMBIA WATERSHEDS
AREA 8 . WILLAMETTE WATERSHEDS
AREA 9 . ROGUE, UMPQUA WATERSHEDS
AREA 10 . KLAMATH WATERSHEDS
AREA 11 . LAKE COUNTY, GOOSE LAKE WATERSHEDS
AREA 12 . HARNEY BASIN WATERSHEDS



SNOW WATER ACCUMULATION in OREGON

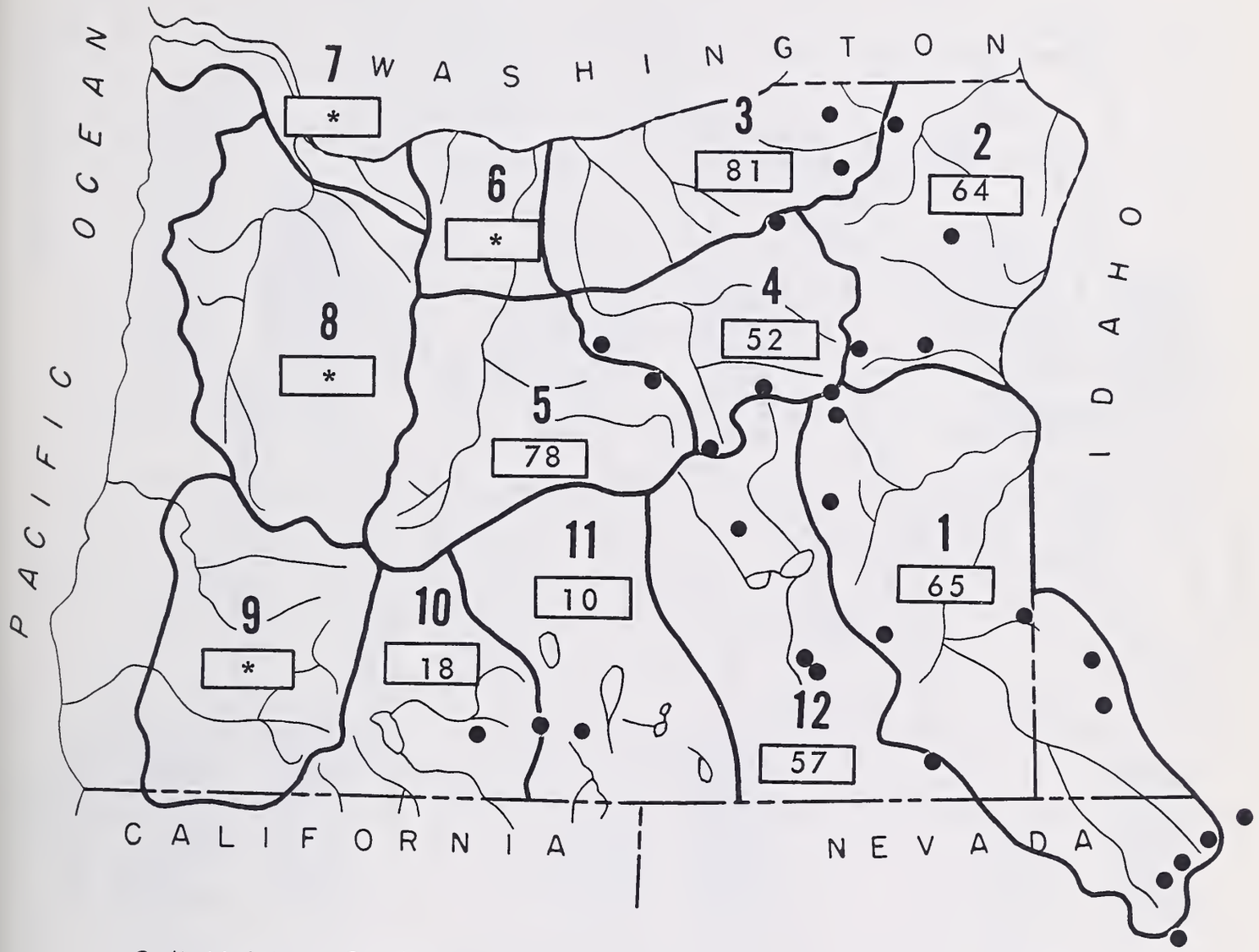
(Percent of average maximum accumulation)

MARCH 1, 1962



MOUNTAIN SOIL MOISTURE in OREGON
as percent of available capacity

MARCH 1, 1962

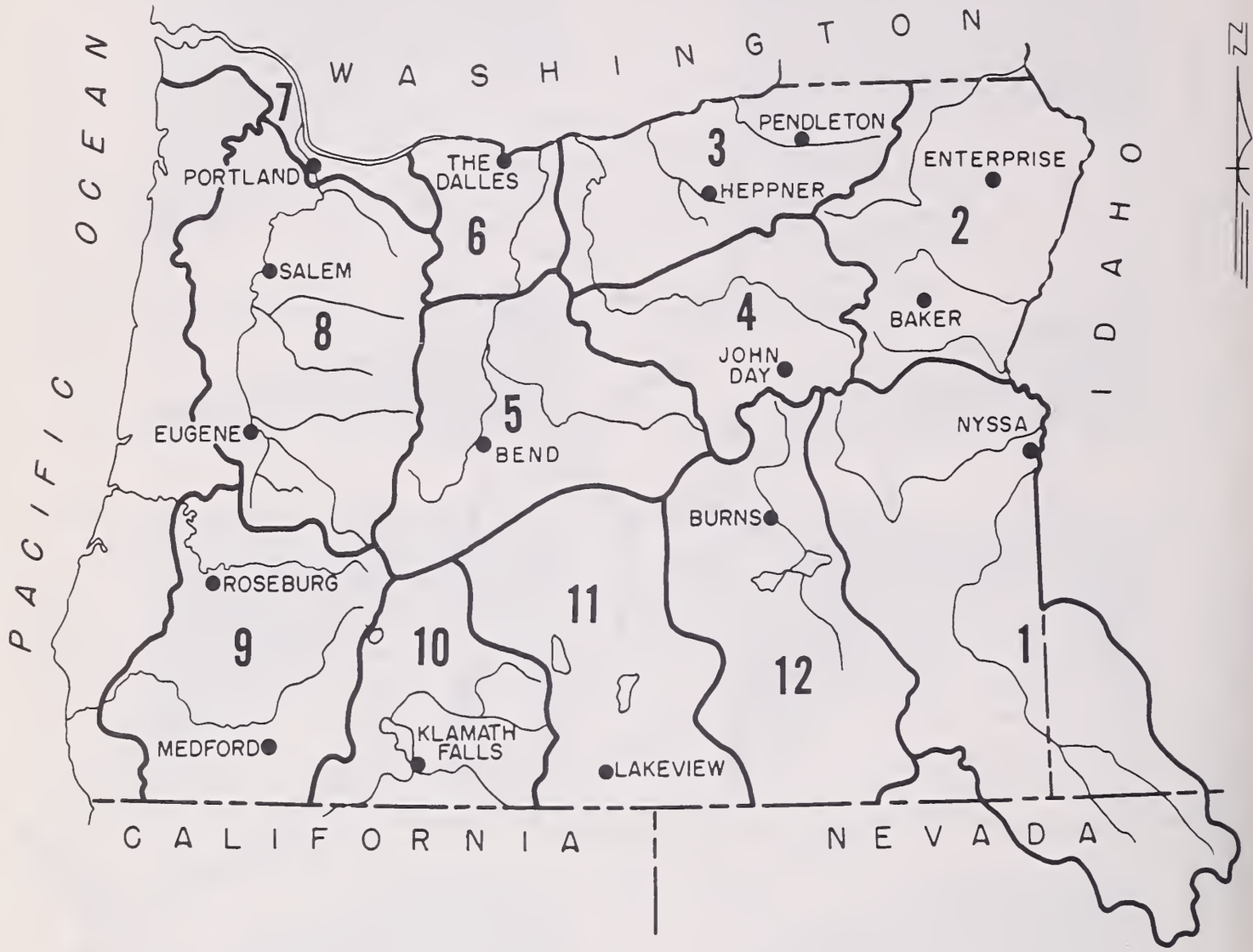


● Soil Moisture Station

**Moisture studies not yet developed in these areas.*

VALLEY PRECIPITATION in OREGON[a]

MARCH 1, 1962

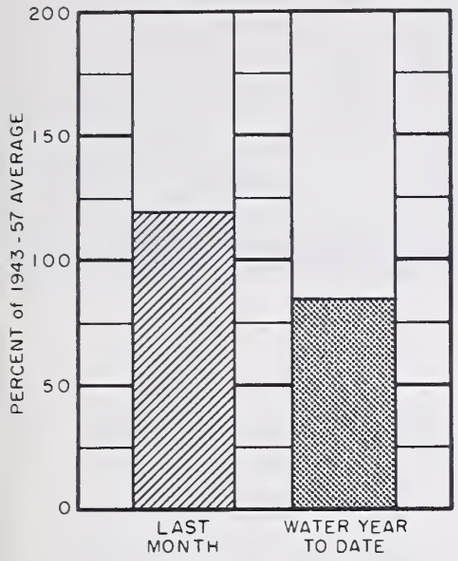


PRECIPITATION as PERCENT of the 1943-57 AVERAGE					
STATION	LAST MONTH	WATER YEAR TO DATE[b]	STATION	LAST MONTH	WATER YEAR TO DATE[b]
Baker Apt.	101	138	Lakeview	119	103
Bend	46	102	Medford Apt.	49	78
Burns	201	124	Nyssa	166	106
Enterprise	53	122	Pendleton Apt.	71	70
Eugene Apt	94	92	Portland Apt.	78	69
Heppner	78	73	Roseburg Apt.	85	95
John Day	82	96	Salem Apt.	73	64
Klamath Falls Apt.	143	103	The Dalles	114	85

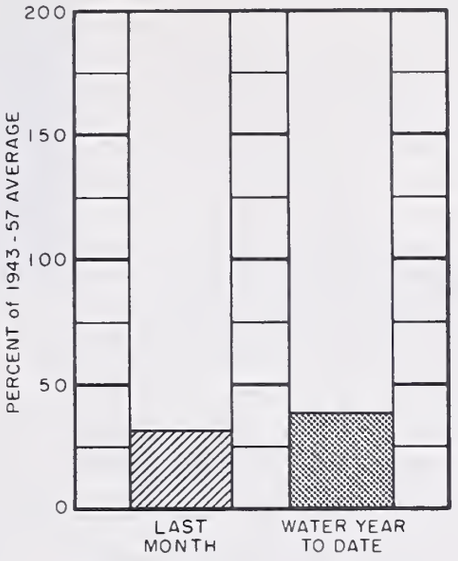
(a) Preliminary data furnished by the U.S. Weather Bureau. (b) Oct. 1 to date. (c) Report delayed.

CURRENT OREGON STREAMFLOW

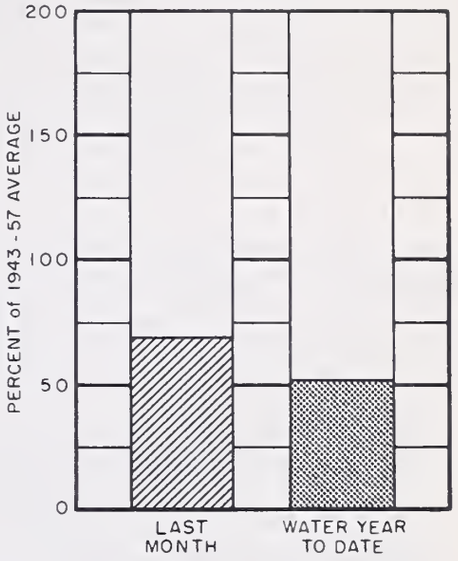
MARCH 1, 1962



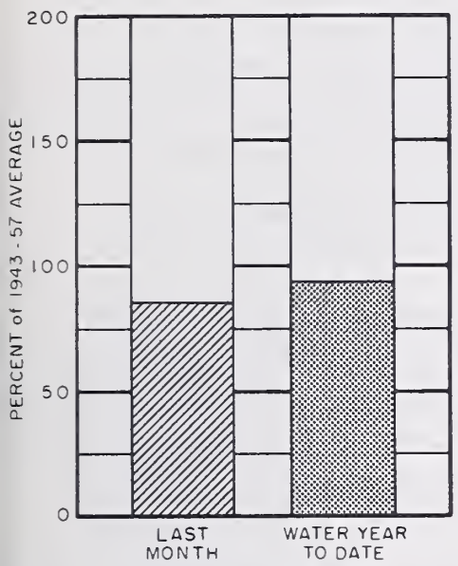
Owyhee Lake net inflow



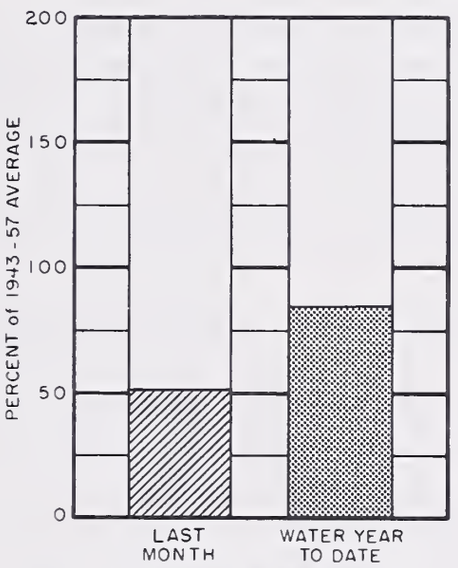
Umatilla near Umatilla



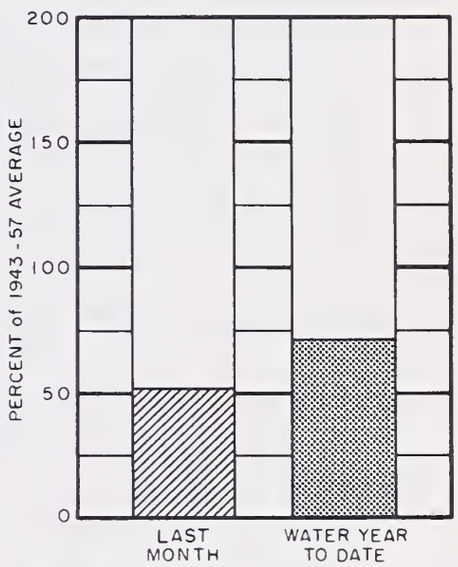
John Day at Service Creek



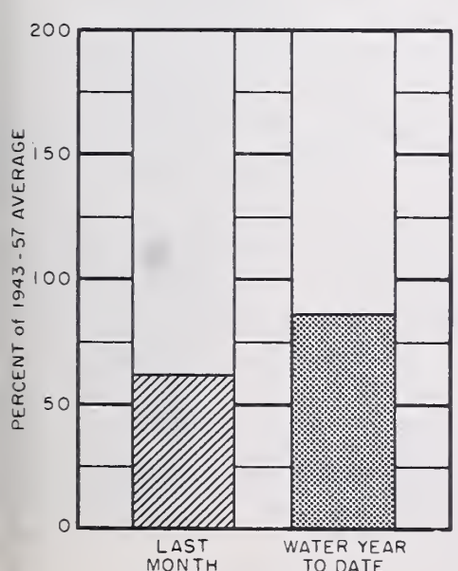
Deschutes at Moody



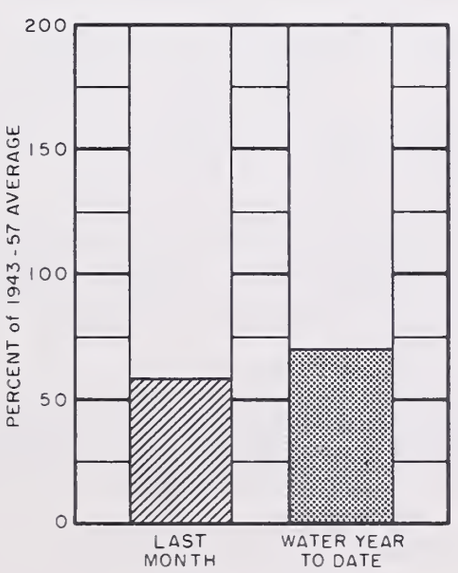
Hood and conduit near Hood River



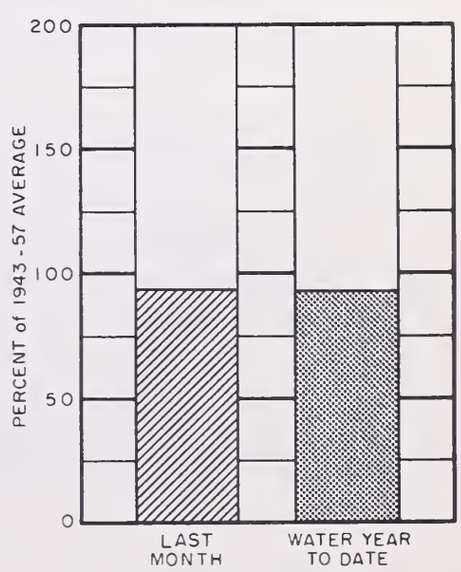
Mid. Fk. Willamette below No. Fk.



Umpqua near Elkton



Rogue at Raygold



Upper Klamath Lake net inflow

Data furnished by U.S. Geological Survey; The California Oregon Power Co.; and North and South Boards of Control Owyhee Project.

WATER SUPPLY OUTLOOK
OWYHEE, MALHEUR WATERSHEDS
OREGON

as of
MARCH 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE · OREGON
AGRIC. EXPERIMENT STATION · OREGON STATE ENGINEER

GENERAL OUTLOOK - The 1962 irrigation water supply outlook for the Owyhee Project has improved during February from its barely adequate position of February 1st while the outlook for the Vale-Oregon and Warmsprings Irrigation Districts remains barely satisfactory. Carryover water supplies at season's end will depend almost entirely on good water management.

Watershed conditions are such that a "Chinook" occurring in the next few weeks could produce runoff of proportions greater than expected in present forecasts.

SNOW COVER - Water content of the mountain snowpack was greatly reduced below 5000 feet by mid-February thaws but has been satisfactorily replaced by late storms.

On the Owyhee the snow is only 6 percent below the 1943-57 average but it is 56 percent greater than last year on this date.

Malheur River watersheds have a snowpack 14 percent less than the average but 80 percent greater than on March 1st last year.

SOIL MOISTURE - Watershed soils under the snowpack, however, are wet to only about half of their capacity on the Malheur and about three-fourths of capacity on the Owyhee. The mid-February thaw greatly increased soil moisture at elevations below 5000 feet but in higher elevations the dry soils will soak up some early snowmelt.

RESERVOIR STORAGE - Stored water supplies in Malheur County are extremely short.

The Owyhee reservoir now holds 168,500 a.f. compared with 256,400 at this time last year. Between them, Warmsprings and Agency Valley reservoirs now contain 45,600 a.f. compared with 64,500 a year ago.

STREAMFLOW - Forecasted streamflow, together with limited stored water supplies is expected to provide sufficient water for a reasonable irrigation season in most areas.

For the Owyhee Project the March-July inflow to the reservoir is forecast at 328,000 a.f. or 63 percent of average. This water plus already stored supplies will provide a total of about 496,000 acre feet. Pumping from Snake River will complete the supply.

The Warmsprings Irrigation District with 27,300 a.f. already in storage, can expect a March-July flow of the Malheur near Drewsey of 105,000 a.f. for a total of 132,000 acre feet of water.

(continued on next page)

Report prepared by
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209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

(continued from Page 1)

Flow of the North Fork of the Malheur at Beulah is expected to be 59,000 acre feet for the April-September period. This water plus 18,300 already in storage plus an estimated 16,000 acre feet expected in March would give the Vale-Oregon District a total of 93,000 acre feet.

Water supplies for Jordan Valley are only slightly better than last year, while supplies in Willow Creek are much improved.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Boulder Creek	Fair	Fair
Bully Creek	Fair	Fair
Cow Creek	Fair	Fair
Jordan Creek	Fair	Fair
Jordan Valley Irrig. Dist.	Average	Fair
McDermitt Creek	Fair	Fair
Oregon Canyon Creek	Fair	Fair
Owyhee Project	Average	Average
Succor Creek	Fair	Fair
Ten Mile Creek	Fair	Fair
Vale Oregon Irrig. Dist.	Average	Average
Warmsprings Irrig. Dist.	Average	Average
Willow Creek	Average	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Agency Valley	60.0	18.3	25.9	33.6
Antelope	55.0	7.0	5.4	10.1
Owyhee	715.0	168.5	256.4	473.1
Warmsprings	191.0	27.3	38.6	83.0

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

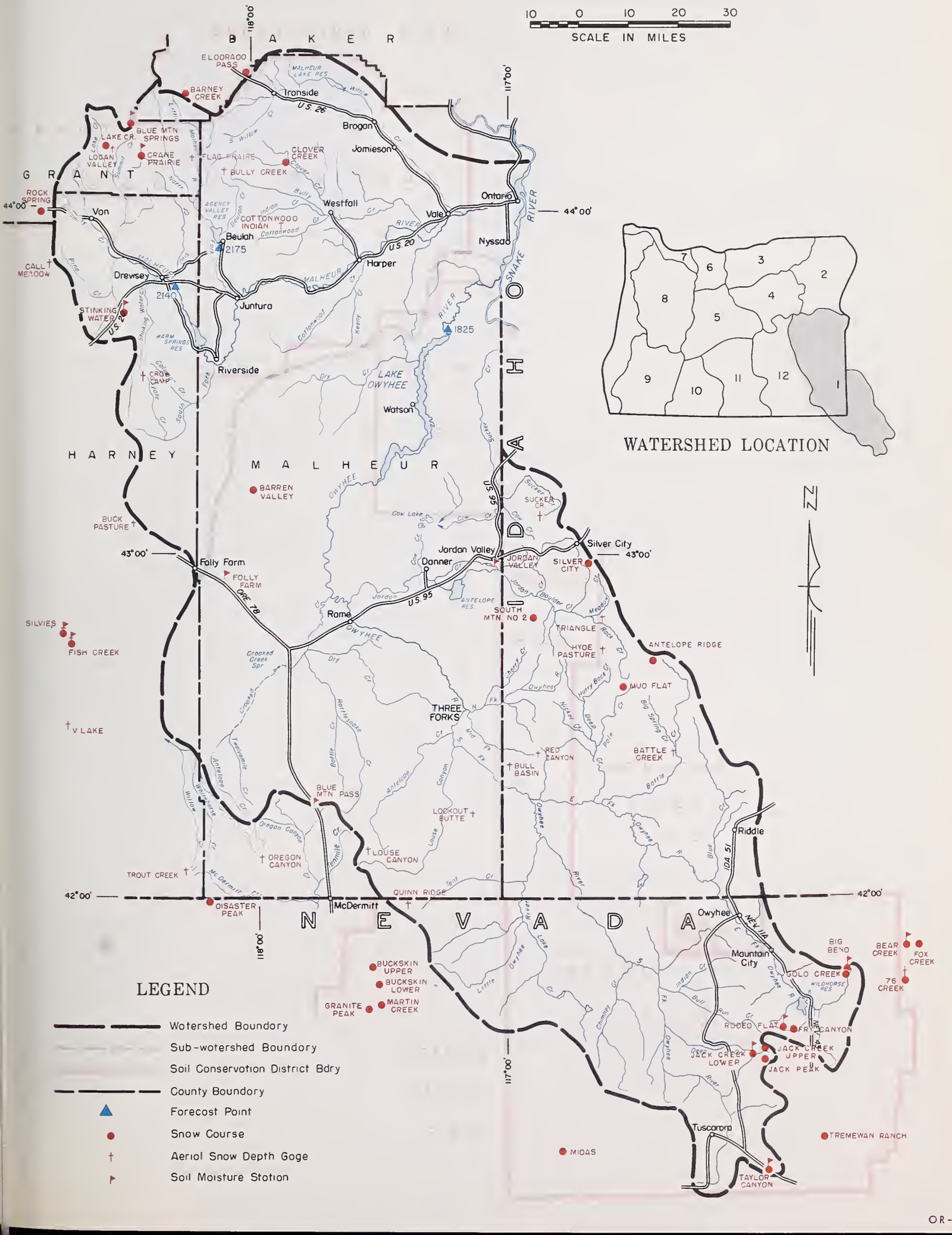
FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
2140	Malheur near Drewsey	75	April-Sept.	81	93
		105	March-July	108	97
2175	Malheur, North Fork at Beulah[d]	59	April-Sept.	64	92
1825	Owyhee Reservoir net Inflow[g]	328	March-July	524	63

AVAILABLE SOIL MOISTURE

STATION NAME	STATION ELEVATION	PROFILE (Inches) DEPTH	PROFILE (Inches) AVAILABLE CAPACITY	SOIL MOISTURE (Inches) DATE	SOIL MOISTURE (Inches) THIS YEAR	SOIL MOISTURE (Inches) LAST YEAR	SOIL MOISTURE (Inches) 2 YEARS AGO
Bear Creek (Nev.)	7800	72	7.0	[h]			
Big Bend (Nev.)	6700	48	9.6	1/29/62	6.7[i]	7.8	9.2
Blue Mountain Springs	5900	42	12.0	2/26/62	3.0	4.5	- -
Crane Prairie	5375	48	9.9	2/26/62	5.8	6.4	- -
Folly Farm	4450	30	6.9	2/23/62	4.4	4.8	5.3
Jack Creek, Lower (Nev.)	6800	48	4.9	2/27/62	4.7	4.4	4.1
Jordan Valley	4250	48	9.8	2/23/62	5.2	5.9	5.9
Rodeo Flat (Nev.)	6800	42	6.0	1/29/62	6.0[i]	6.0	- -
Stinking Water Summit	4800	48	11.7	2/23/62	10.2	11.2	10.3
Taylor Canyon (Nev.)	6200	48	9.7	3/1/62	9.0	6.6	6.5

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) USBR records of inflow. (h) Not surveyed. (i) Nearest current data. (j) Partly estimated. (*) 1943-57 Adjusted average.

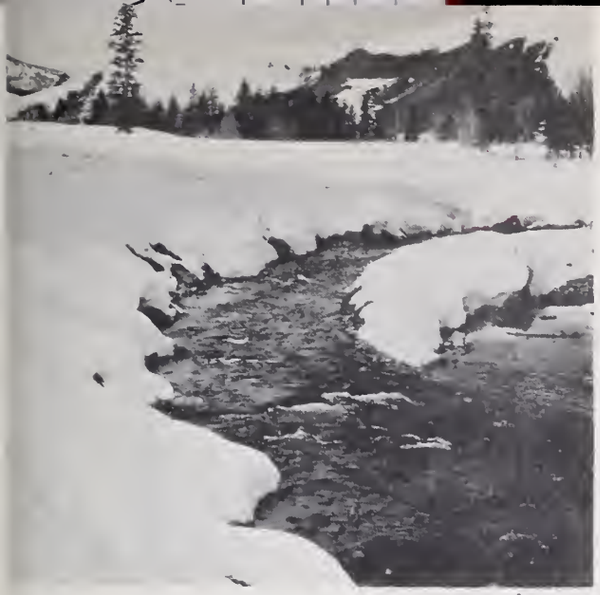
OWYHEE, MALHEUR WATERSHEDS



SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE
Antelope Ridge	5900	2/26	8	1.2	1.7	- -
Barney Creek	5950	2/21	30	8.3	4.9	7.7*
Battle Creek[e] (Ida.)	5700	2/26	6	1.2	1.9	- -
Bear Creek (Nev.)	7800	2/26	69	20.3	9.4	17.1*
Big Bend	6700	2/26	28	9.1	5.2	8.9
Blue Mountain Spring	5900	2/26	44	13.0	10.9	15.2
Buck Pasture[e]	5700	2/26	8	2.6	1.3	- -
Buckskin, Lower	6700	2/27	30	9.0	6.1	8.4*
Buckskin, Upper	7200	2/27	27	9.4	6.8	7.9*
Bull Basin[e]	5600	2/26	5	1.0	0.3	- -
Bully Creek[e]	5300	2/26	14	3.9	0.0	- -
Call Meadows[e]	5340	2/26	21	5.9	2.6	- -
Clover Creek	4100	*h*				
Cottonwood-Indian[e]	4320	2/26	9	2.5	0.0	- -
Crane Prairie	5375	2/26	28	7.2	6.2	9.6
Disaster Peak	6500	*f*				
Eldorado Pass	4600	2/26	11	2.8	0.0	- -
Fish Creek	7900	2/22	65	18.1	16.8	- -
Flag Prairie[e]	4750	2/26	14	3.9	0.0	- -
Fox Creek	6800	2/26	32	8.7	4.5	8.4*
Fry Canyon	6700	2/26	20	6.1	4.9	8.2
Gold Creek	6600	2/26	14	4.8	2.1	6.3*
Granite Peak	7800	*f*				
Hyde Pasture[e]	5800	2/26	9	1.8	1.9	- -
Jack Creek, Lower	6800	2/27	11	2.5	2.0	3.2
Jack Creek, Upper	7250	2/27	34	10.0	6.5	9.7*
Jack Peak	8420	2/27	81	25.5	17.6	- -
Lake Creek	5120	2/26	32	8.4	7.3	10.7
Logan Valley	5100	2/26	26	6.5	6.0	- -
Lookout Butte[e]	5650	2/26	2	0.6	0.0	- -
Louse Canyon[e]	6440	2/26	18	5.8	0.7	- -
Martin Creek	6700	2/28	39	12.4	6.2	8.2
Midas	7200	2/23	24	7.8	T	4.7*
Mud Flat	5500	2/26	12	2.4	3.3	- -
Oregon Canyon[e]	6950	2/26	22	7.0	4.6	- -
Quinn Ridge[e]	6300	2/26	6	1.9	0.3	- -
Red Canyon[e]	6500	2/26	16	3.2	5.0	- -
Rock Spring	5100	2/27	20	5.0	1.7	5.9
Rodeo Flat	6800	2/26	15	4.8	4.0	8.2
Silver City	6400	3/3	54	13.9	9.4	14.8*
Silvies	6900	2/22	34	12.2	6.3	- -
South Mountain No. 2	6340	2/26	30	8.2	8.2	11.4
Stinking Water	4800	2/26	13	4.0	0.0	4.0*
Succor Creek[e]	6100	2/26	20	4.0	- -	- -
Taylor Canyon	6200	3/1	10	2.6	0.7	5.0
Tremewan Ranch	5700	2/26	0	0.0	T	1.9
Triangle[e]	5150	2/26	0.5	0.1	0.3	- -
Trout Creek[e]	7800	2/26	28	9.0	5.3	- -
76 Creek[e]	7100	*f*				
"V" Lake[e]	6600	2/22	12	3.8	2.0	- -

"The Conservation of Water begins with the Snow Survey"



Area 2

WATER SUPPLY OUTLOOK
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS
OREGON

as of
MARCH 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1962 irrigation water supply outlook for three Northeastern Oregon counties, Baker, Union and Wallowa, has been dimmed slightly in the past month by a shortage of snowfall but remains mostly satisfactory.

SNOW COVER

Water content of the mountain snowpack has not increased normally during February and is now 11 percent below the 15 year average (1943-57) and 24 percent greater than on March 1st last year. Low elevation snow cover is the best in several years.

SOIL MOISTURE

Moisture in the top 3 to 4 feet of soils under the snow on upper watersheds is 36 percent below capacity and 17 percent below that measured one year ago. Some early snowmelt water will be soaked up by these soils as runoff gets under way.

RESERVOIR STORAGE

Wallowa Lake now contains 13,800 acre feet of water compared with 14,500 a.f. on March 1st last year and with 16,100 a.f. average. Unity reservoir has 11,500 acre feet in storage, the same as last year at this date, and is ahead of the 9,100 acre feet average.

STREAMFLOW

The March-June flow of the Burnt River near Hereford is forecast at 46,000 acre feet or 90 percent of the 15 year average (1943-57). The April-July flow of the Powder River near Baker is forecast at 58,000 acre feet or 89 percent of average. Catherine Creek, as measured near Union, should produce 72,000 acre feet or 99 percent of average.

The Grande Ronde at LaGrande should flow 205,000 acre feet or 84 percent average March through September. Other tributaries on the Wallowa River are forecast to flow as follows: Hurricane Creek, 88 percent; Bear Creek, 97 percent; Lostine River, 98 percent; and East Fork of Wallowa, 99 percent for the April-September period. The Imnaha River is forecast at 105 percent of average or 330,000 acre feet for the April-September period.

The above forecasts have all been reduced slightly from estimates issued on February 1st.

Report prepared by
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209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Alder Slope	Average	Fair
Baker Valley	Average	Fair
Big Creek	Average	Fair
Clover Creek (nr. N. Powder)	Average	Fair
Cove	Average	Fair
Durkee	Average	Fair
Eagle Valley	Average	Fair
Elgin	Average	Fair
Enterprise-Joseph	Average	Average
Hereford-Bridgeport	Average	Average
Imnaha River	Average	Fair
LaGrande-Island City	Average	Fair
Lostine-Wallowa	Average	Fair
No. Powder River-Wolf Cr.	Average	Fair
Pine Valley	Average	Fair
Powder River-Elk Creek	Average	Fair
Summerville	Average	Fair
Sumpter Valley	Average	Fair
Union-Hot Lake	Average	Fair
Unity	Average	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Unity	25.2	11.5	11.6	9.1
Wallowa Lake	37.5	13.8	14.5	16.1

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

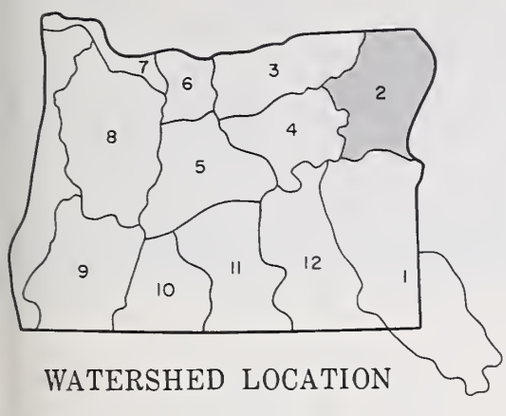
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
3305	Bear near Wallowa	72	April-Sept.	74	97
2730	Burnt near Hereford[d]	46	March-June	51	90
3200	Catherine near Union	72	April-Sept.	73	99
3190	Grande Ronde at LaGrande	200	March-July	242	83
		205	March-Sept.	245	84
3295	Hurricane near Joseph	43	April-Sept.	49	88
2920	Imnaha at Imnaha	330	April-Sept.	314	105
3300	Lostine near Lostine	130	April-Sept.	133	98
2755	Powder near Baker	60	April-Sept.	66	91
		58	April-July	65	89
3250	Wallowa, East Fork near Joseph[d]	12.0	April-Sept.	12.1	99
		9.7	April-July	9.7	100

AVAILABLE SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Blue Mountain Summit	5100	36	10.4	2/22/62	1.0	3.4	2.8
Emigrant Springs	3925	48	15.0	1/26/62	10.9[i]	13.7	- -
Tollgate	5070	48	17.8	2/27/62	15.8	16.4	16.4

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Water content partly estimated. (h) Not surveyed. (i) Nearest current data. (j) Partly estimated. (*) 1943-57 Adjusted averages.

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS



WATERSHED LOCATION

10 0 10 20 30
SCALE IN MILES

WASHINGTON
OREGON
IDAHO
UMATILLA
UNION
WALLOWA
GRANT
BAKER
MALHEUR
SNAKE RIVER
46°00'
45°00'
117°00'
118°00'
TOLLGATE
Elgin
Wallowa
Imnaha
Summerville
MEACHAM
La Grande
Starkey
Cove
Union
Enterprise
Joseph
STANLEY
MOSS SPRING
BALD MTN.
ANEROID LAKE NO. 2
ANEROID LAKE NO. 1
LUCKY STRIKE
SCHOOL MARM
COUNTY LINE
BEAVER RES.
TAYLOR GREEN
Medical Springs
North Powder
LITTLE ALPS
ANTHONY LAKE
SCHNEIDER MEADOWS
Haines
EILERTSON MEADOWS
Keating
Halfway
Pine
BOURNE
GOLD CENTER
GOODRICH LAKE
Baker
Richland
Sumpter
TIPTON
BLUE MTN. SUMMIT
DOOLEY MTN
Durkee
Hereford
Bridgeport
Unity
BARNEY CREEK
ELDORADO PASS
Huntington
ORE. 204
ORE. 82
ORE. 3
ORE. 86
US 30
3190
3305
3300
3295
3250
3200
2920
2755
2730

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Soil Moisture Station
- Aerial Snow Depth Gage

Burnt, Powder, Pine, Grande Ronde, Imnaha Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Aneroid Lake No. 1	7480	2/23	96	32.8	28.2	33.4*
Aneroid Lake No. 2	7000	2/23	76	25.4	22.8	26.2*
Anthony Lake	7125	2/26	71	22.6	19.3	25.2*
Bald Mountain [e] (Ore.)	6700	[f]				
Barney Creek	5950	2/21	30	8.3	4.9	7.7*
Beaver Reservoir	5340	2/26	35	10.1	8.4	10.6
Blue Mountain Summit	5098	2/22	29	7.8	5.2	9.0
Bourne	5800	2/23	55	14.2	11.3	16.5*
County Line	4800	2/27	17	5.3	2.7	7.6*
Dooley Mountain	5430	2/21	30	8.5	4.9	8.8
Eilertson Meadows	5400	2/24	37	9.4	7.7	11.1*
Eldorado Pass	4600	2/26	11	2.8	0.0	- -
Gold Center	5340	2/23	44	12.3	9.1	12.8*
Goodrich Lake	6775	[f]				
Little Alps	6200	2/26	45	12.0	8.8	- -
Lucky Strike	5050	2/23	43	10.3	9.0	12.3
Meacham	4300	2/27	26	6.2	2.0	9.9
Moss Spring	5850	2/27	66	20.8	14.9	22.4
Schneider Meadows	5400	2/26	89	28.8	27.5	29.5*
Schoolmarm	4775	2/27	13	3.9	2.1	6.4*
Standley [e]	7400	2/26	83	28.2	25.5	- -
Taylor Green	5740	2/24	48	13.8	- -	- -
Tipton	5100	2/22	30	8.3	7.5	11.0*
Tollgate	5070	2/27	55	18.8	17.2	26.2

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS
OREGON

as of
MARCH 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK - The 1962 outlook for irrigation water supplies in Umatilla, Morrow and Gilliam counties has been dimmed slightly from the near adequate outlook of February 1st by a shortage of snowfall during most of February. Forecasts have been revised slightly downward and storage water is seriously short in McKay reservoir.

SNOW COVER - Water content of the mountain snowpack is 32 percent below the 15 year average (1943-57) and 39 percent greater than on March 1st last year.

A stepped up intensity of snow storms for the remainder of the winter will be needed if this area is to have average water supplies.

SOIL MOISTURE - Moisture in the top 3 to 4 feet of the soil immediately under the snowpack at upper elevations is about 80 percent of capacity and is favorable to a good runoff from melting snow.

RESERVOIR STORAGE - Storage of water in Cold Springs reservoir is now up to 40,400 acre feet and heading for its capacity of 50,000 acre feet.

McKay reservoir contains only 18,800 acre feet, the lowest for the March 1st date since 1955 when only 13,000 a.f. were stored. Last year there were 35,000 acre feet in this reservoir on March 1st.

STREAMFLOW - McKay Creek is forecast to flow 40,000 acre feet in the March-July period or 83 percent of the 15 year average (1943-57). Together with the 18,800 acre feet now held in the reservoir, this source will provide about 59,000 acre feet and the reservoir will not be apt to fill. A real old-time "Chinook" in the next few weeks would be valuable to McKay Creek water users but it would reduce the total water outlook for others in the area who are without reservoirs to catch and hold early runoff.

Flow of the Umatilla at Pendleton is forecast at 81 percent for the April-September period or 151,000 acre feet.

Forecast for the South Fork of the Walla Walla near Milton calls for an 84 percent flow of 64,000 acre feet in the April-September period.

Smaller streams such as Birch, Butter, Willow, Rhea and Rock Creeks will have below average flows this season.

Report prepared by
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209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Birch Creek	Fair	Fair
Butter Creek	Fair	Fair
Dry Creek	Fair	Fair
Dugger Creek	Fair	Fair
Johnson Creek	Fair	Fair
McKay Creek	Average	Fair
Mill Creek	Average	Fair
Mud Creek	Average	Fair
Pine Creek	Average	Fair
Rhea Creek	Average	Fair
Rock Creek	Average	Fair
Umatilla River (Cold Springs Res.)	Average	Fair
Umatilla River, Main	Fair	Fair
Umatilla River (McKay Res.)	Fair	Fair
Walla Walla River, Little	Fair	Fair
Walla Walla River, Main	Fair	Fair
Walla Walla River, N. Fork	Fair	Fair
Walla Walla River, S. Fork	Fair	Fair
Willow Creek	Fair	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Cold Springs	50.0	40.4	48.5	38.6
McKay	73.8	18.8	35.0	44.1

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
0225	McKay near Pilot Rock	40	March-July	48	83
0200	Umatilla near Gibbon	78	April-Sept.	96	81
0210	Umatilla at Pendleton	151	April-Sept.	187	81
		146	April-July	182	80
0100	Walla Walla, South Fork near Milton	64	April-Sept.	76	84
		52	April-July	62	84

AVAILABLE SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Athena-Weston	1700	48	11.8	2-27-62	9.7	7.0	6.9
Battle Mountain Summit	4340	48	8.0	2-28-62	6.0	6.3	5.3
Emigrant Springs	3925	48	15.0	1-26-62	10.9[i]	13.7	- -
Tollgate	5070	48	17.8	2-27-62	15.8	16.4	16.4

SNOW

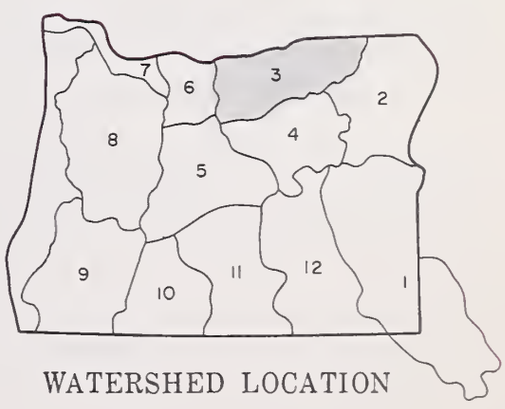
SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1943-57 AVERAGE
Arbuckle Mountain	5400	2/27	37	9.0	6.0	11.1*
Battle Mountain Summit	4340	2/28	12	1.9	T	- -
Emigrant Springs	3925	2/27	9	1.4	0.1	7.3
Lucky Strike	5050	2/23	43	10.3	9.0	12.3
Meacham	4300	2/27	26	6.2	2.0	9.9
Tollgate	5070	2/27	55	18.8	17.2	26.2

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Nearest current data. (h) Partly estimated.

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Soil Moisture Station



WATERSHED LOCATION

WATER SUPPLY OUTLOOK
UPPER JOHN DAY WATERSHEDS
OREGON

as of

MARCH 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1962 irrigation water supply outlook for Upper John Day watersheds has dimmed slightly from the near average outlook of February 1st because snowfall and precipitation have failed to increase normally.

SNOW COVER

Water content of the mountain snowpack is 44 percent greater than last year on March 1st and is 9 percent below the 15 year average (1943-57) accumulation.

Remaining winter storms will have to produce much above normal amounts of snow to provide normal streamflow this irrigation season.

SOIL MOISTURE

Moisture in the top 3 or 4 feet of soils immediately under the snowpack on upper watershed areas is 52 percent of capacity and 20 percent drier than on March 1st one year ago. These relatively dry soils will soak up some early snowmelt water before any heavy runoff can begin.

STREAMFLOW

Flow of the John Day at Service Creek* has been only half normal (51 percent) in the October-February period. This low flow appears to be a reflection of the very dry watershed soils and the absence of any outstanding mid-winter snow melt.

Flow of the John Day at Prairie City is forecast at 54,000 acre feet or 92 percent of average for the March-July period. The Middle Fork at Ritter is expected to produce 142,000 acre feet or 90 percent of the average for the same March-July period.

Strawberry Creek near Prairie City should produce 7,400 acre feet or 81 percent of the average April-September period.

Flows of smaller streams such as Indian, Pine, Beech and Long Creeks will be definitely below the usual amounts but better than last season.

*Preliminary data furnished by U.S. Geological Survey, Portland, Oregon

Report prepared by
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209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Beech Creek	Fair	Fair
Beech Cr.-Fox-Long Crs.	Fair	Fair
Bridge-Mountain Creeks	Fair	Fair
Camas Creek	Fair	Fair
Cherry Creek	Fair	Fair
Indian-Pine Creeks	Fair	Fair
John Day River, Main Fork	Average	Fair
John Day River, Mid. Fork	Average	Fair
John Day River, N. Fork	Average	Fair
John Day River, S. Fork	Average	Fair
Monument-Kimberly	Average	Fair
Strawberry Creek	Fair	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
0385	John Day at Prairie City	54	March-July	59	92
0440	John Day, Middle Fork at Ritter	142	March-July	158	90
0375	Strawberry near Prairie City	7.4	April-Sept.	9.1	81

AVAILABLE SOIL MOISTURE

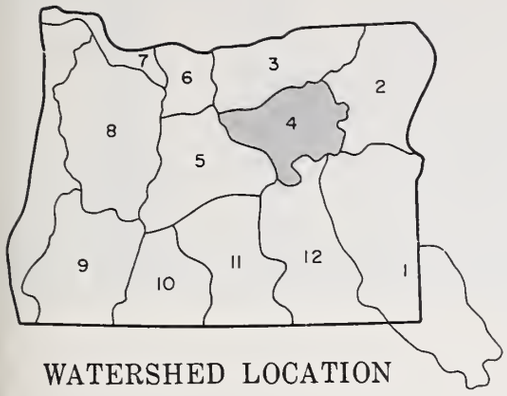
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Battle Mountain Summit	4340	48	8.0	2/28/62	6.0	6.3	5.3
Blue Mountain Springs	5900	42	12.0	2/26/62	3.0	4.5	- -
Blue Mountain Summit	5100	36	10.4	2/22/62	1.0	3.4	2.8
Marks Creek	4540	36	8.3	2/26/62	6.2	5.5	2.4
Snow Mountain	6300	48	10.4	2/20/62	8.4	- -	- -
Starr Ridge	5150	36	6.1	2/26/62	4.1	5.0	5.1

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	1943-57 AVERAGE
Anthony Lake	7125	2/26	71	22.6	19.3	25.2*
Arbuckle Mountain	5400	2/27	37	9.0	6.0	11.1*
Battle Mountain Summit	4340	2/28	12	1.9	T	- -
Beech Creek Summit	4800	2/27	20	6.2	0.0	5.8
Blue Mountain Spring	5900	2/26	44	13.0	10.9	15.2
Blue Mountain Summit	5098	2/22	29	7.8	5.2	9.0
Derr	5670	2/27	38	9.8	5.8	- -
East Fork Canyon[e]	5700	2/26	38	10.6	- -	- -
Gold Center	5340	2/23	44	12.3	9.1	12.8*
Indian Creek Butte[e]	6550	2/26	69	19.3	19.1	- -
Izee Summit	5293	2/23	32	8.1	5.4	8.1
Lucky Strike	5050	2/23	43	10.3	9.0	12.3
Marks Creek	4540	2/26	18	5.2	0.0	4.3
Ochoco Meadows	5200	2/26	44	12.1	4.5	10.3
Olive Lake	6000	2/28	60	16.7	12.1	18.6
Schoolmarm	4775	2/27	13	3.9	2.1	6.4*
Snow Mountain	6300	2/20	47	12.8	- -	13.0*
Starr Ridge	5150	2/26	19	5.0	2.8	6.0
Tipton	5100	2/22	30	8.3	7.5	11.0*
Williams Ranch	4500	2/26	T	T	0.0	- -

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not surveyed. (h) Nearest current data. (*) 1943-57 Adjusted average.

UPPER JOHN DAY WATERSHEDS



WATERSHED LOCATION

10 0 10 20 30
SCALE IN MILES

N

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- ● Snow Course
- ⚑ Soil Moisture Station
- † Aerial Snow Depth Gage

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
UPPER DESCHUTES, CROOKED WATERSHEDS
OREGON

as of

MARCH 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK - The 1962 irrigation water supply outlook for the Deschutes - Crooked watersheds has been dimmed somewhat from the near average outlook of February 1st by the lack of a normal increase in the snowpack this past month.

SNOW COVER - Water content of the mountain snowpack on the Deschutes watersheds is 15 percent below the 15 year average (1943-57) and 56 percent above last year on this date.

Snow cover on Crooked watersheds is 6 percent above the average and nearly three times greater than last year on March 1st. Low elevation snow cover is the best in years.

SOIL MOISTURE - Moisture in the top 3 to 4 feet of soils immediately under the snowpack is 22 percent below capacity on Crooked watersheds. This is much wetter than usual and will favor runoff into streams. Deschutes soils are also favorably wet.

RESERVOIR STORAGE - Ochoco reservoir now contains 14,400 acre feet of water compared with 10,800 a.f. last year on March 1st and the average (1943-57) of 28,500 a.f. Prineville reservoir, which has spilled some for flood control operations, now has 92,300 acre feet of water.

Stored water in Wickiup is ahead of last year with 166,900 acre feet now held compared with 155,000 a.f. a year ago. Storage in Crane Prairie and Crescent Lakes is equal to that of last year.

STREAMFLOW - Inflow to Ochoco reservoir is forecast at 38,000 acre feet or 84 percent of the 15 year average (1943-57) for the March-July period. Flow of Crooked River near Post is expected to be 160,000 acre feet or 89 percent of average for the same period.

Deschutes River at Benham Falls is forecast at 485,000 acre feet or 81 percent of average for the April-September period. The Little Deschutes, measured near Lapine, is expected to produce 85,000 acre feet or 74 percent of average for the March-July period.

Squaw and Tumalo Creeks are forecast to produce 54,000 and 51,000 acre feet or 98 and 93 percent of average, respectively, for the April-September period. The Plainview-McCallister canal should carry water into late July this year and the Snow Creek irrigation system should have the best water supplies since 1958.

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209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Arnold Irrigation District	Average	Average
Bear Creek	Average	Fair
Beaver Creek	Average	Fair
Camp Creek	Average	Fair
Central Ore. Irrig. Dist.	Average	Average
Crooked River	Average	Fair
Deschutes River	Average	Fair
Hay-Trout Creeks	Average	Fair
Lone Pine Irrig. Dist.	Average	Average
Mill Creek	Average	Fair
North Unit Irrig. Dist.	Average	Average
Ochoco Creek	Average	Fair
Plainview-McCallister	Average	Average
Sisters Irrigation Dist.	Average	Fair
Snow Creek Irrig. Dist.	Average	Average
Squaw Creek Irrig. Dist.	Average	Average
Swalley Ditch	Average	Average
Tumalo Project	Average	Average
Walker Basin Irrig. Dist.	Average	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Crane Prairie	55.3	38.1	37.7	44.1
Crescent Lake	117.2	41.4	41.3	47.3
Ochoco	47.5	14.4	10.8	28.5
Prineville	153.0	92.3	- -	- -
Wickiup	182.0	166.9	155.1	133.3

Note: The U. S. Bureau of Reclamation indicates that dead storage in the amount of 5360 acre feet may be included in the current storage figure for Crescent Lake.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

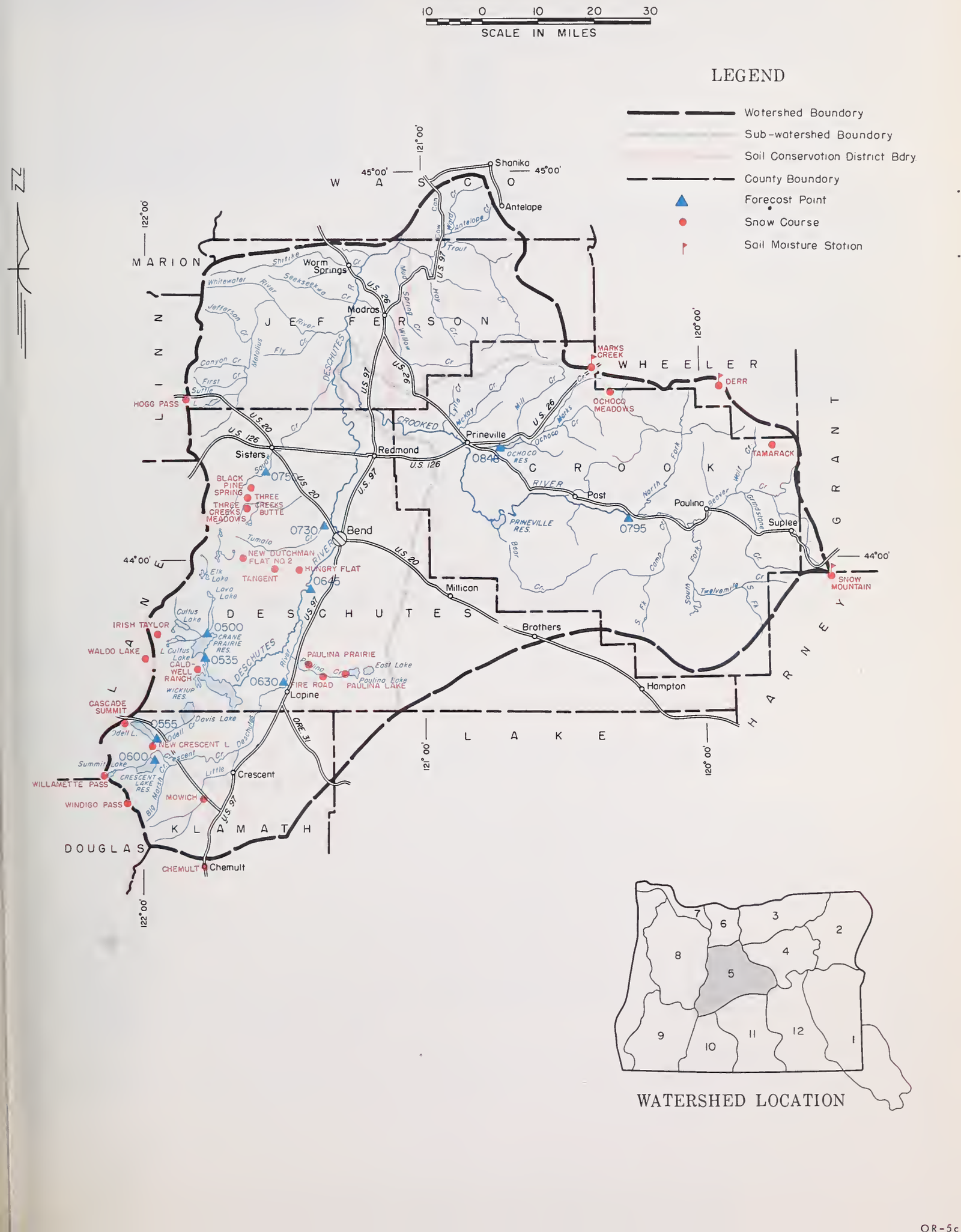
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
0535	Crane Prairie Reservoir total Inflow	115	April-Sept.	143	80
0600	Crescent at Crescent Lake[d]	20	March-July	28	71
0795	Crooked near Post	160	March-July	179	89
0645	Deschutes at Benham Falls[d]	485	April-Sept.	602	81
		325	April-July	404	80
0500	Deschutes below Snow Creek	60	April-Sept.	74	81
0630	Deschutes, Little near Lapine[d]	85	March-July	115	74
0848	Ochoco Reservoir net Inflow	38	March-July	45	84
0555	Odell near Crescent	28	April-Sept.	34	82
0750	Squaw near Sisters	54	April-Sept.	55	98
0730	Tumalo near Bend[d]	51	April-Sept.	55	93

AVAILABLE SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Marks Creek	4540	36	8.3	2/26/62	6.2	5.5	2.4
Snow Mountain	6300	48	10.4	2/20/62	8.4	- -	- -

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Partly estimated. (*) 1943-57 Adjusted average.

UPPER DESCHUTES, CROOKED WATERSHEDS



WATERSHED LOCATION

Upper Deschutes, Crooked Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE
Black Pine Spring	4600	2/27	10	3.0	0.8	5.8*
Caldwell Ranch	4400	2/21	27	10.6	- -	- -
Cascade Summit	4880	2/27	66	23.8	15.0	30.6*
Chemult	4760	2/26	26	8.3	4.4	12.2
Derr	5670	2/27	38	9.8	5.8	- -
Fire Road	5050	2/23	26	8.8	T	- -
Hogg Pass	4755	2/26	90	33.4	19.5	42.0
Hungry Flat	4400	2/26	14	5.6	0.0	8.1*
Irish-Taylor	5500	2/21	90	32.9	- -	- -
Marks Creek	4540	2/26	18	5.2	0.0	4.3
Mowich	4700	2/20	7	2.0	0.0	- -
New Crescent Lake	4800	2/19	37	11.8	6.9	16.8*
New Dutchman Flat No. 2	6400	2/26	114	44.3	38.6	48.3*
Ochoco Meadows	5200	2/26	44	12.1	4.5	10.3
Paulina Lake	6330	2/23	56	19.3	14.4	- -
Paulina Prairie	4285	2/23	0	0.0	0.0	- -
Snow Mountain	6300	2/20	47	12.8	- -	13.0*
Tamarack	4800	2/21	21	5.8	1.5	6.2*
Tangent	5400	2/26	61	19.9	17.9	22.2*
Three Creeks Butte	5200	2/27	33	11.3	2.7	- -
Three Creeks Meadows	5600	2/27	59	21.4	11.6	20.0*
Waldo Lake	5500	2/21	69	24.2	- -	- -
Willamette Pass	5600	2/19	95	33.4	23.1	38.3*
Windigo Pass	5800	2/20	95	37.7	27.2	40.0*

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS
OREGON

as of
MARCH 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1962 irrigation water supply outlook for the Hood River - Wasco County area has been further dimmed from the below average outlook of February 1st by a continuing shortage of snow. However, month-end storms appear to be improving the situation.

SNOW COVER

Water content of the mountain snowpack is 40 percent below the March 1 average for the 15 year period (1943-57) but is 41 percent greater than at this date a year ago.

SOIL MOISTURE

Moisture in the top 3 or 4 feet of soils immediately under the snowpack in upper watershed areas is about normal for this season of the year. Soils at lower elevations are well "primed".

RESERVOIR STORAGE

Storage in Clear Lake is up to 4,457 acre feet. There are no reports from other reservoirs in the area.

STREAMFLOW

Flow of Hood River* during February was only half normal and the flow from October 1, 1961 to date has been 83 percent of the 1943-57 average.

Forecasts of flow for Hood River near Hood River indicate the April-September flow will be about 288,000 acre feet or 79 percent of average. The West Fork of Hood near Dee is forecast at 140,000 acre feet for the same six-month period.

White River below Tygh Valley is forecast to produce 135,000 acre feet or 76 percent of average for the April-September irrigation season.

Flows of Rock, Gate, Threemile and Badger Creeks as well as of Mosier, Mill, Fivemile, Eightmile and Fifteenmile Creeks will be better than last year - probably similar to those of 1960.

*Preliminary data furnished by U.S. Geological Survey, Portland, Oregon

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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Aldridge Ditch	Fair	Fair
Badger Creek	Fair	Fair
Dee Irrigation Dist.	Fair	Fair
East Fork Irrig. Dist.	Fair	Fair
Farmers Irrig. Dist.	Fair	Fair
Hood River Irrig. Dist.	Fair	Fair
Juniper Flat Irrig. Dist.	Average	Fair
Middle Fork Irrig. Dist.	Fair	Fair
Mile Creeks	Fair	Fair
Mill Creek	Fair	Fair
Mount Hood Irrig. Dist.	Fair	Fair
Rock-Gate-Threemile Crs.	Fair	Fair
Tygh Creek	Fair	Fair
White River	Fair	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Clear Lake	- -	4.5	4.8	- -

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
1210	Hood near Hood River[d]	288	April-Sept.	365	79
		245	April-July	311	79
1185	Hood, West Fork near Dee	140	April-Sept.	174	80
		120	April-July	151	79
1015	White below Tygh Valley	135	April-Sept.	178	76
		121	April-July	161	75

SNOW

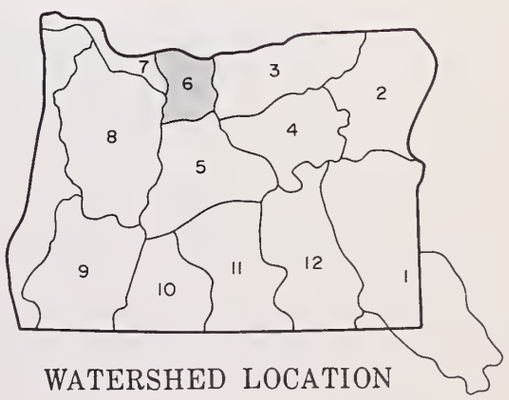
SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1943-57 AVERAGE
Brooks Meadows	4300	2/26	24	5.6	2.5	- -
Clear Lake	3500	2/27	8	1.9	0.4	14.0*
Clear Lake Experimental	3500	2/27	24	7.0	2.0	- -
Cooper Spur	3490	c				
Greenpoint Reservoir	3400	2/25	28	7.6	0.5	16.7*
Knebal Springs	3850	2/26	19	4.6	1.5	- -
Parkdale	1770	c				
Phlox Point	5600	3/2	136	46.1	41.5	60.3
Red Hill	4400	2/25	62	21.0	17.4	44.2*
Still Creek	3700	2/26	36	11.9	7.9	25.5
Tilly Jane	6000	2/18	80	32.0	24.8	40.3*
Ulrich Ranch Junction	3350	2/26	13	2.8	1.0	- -
Upper Valley	2530	c				

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Partly estimated. (*) 1943-57 Adjusted average.

HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course



WATERSHED LOCATION

WATER SUPPLY OUTLOOK
LOWER COLUMBIA WATERSHEDS
OREGON

as of
MARCH 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK

The water supply outlook for spring and summer flow of the Columbia River near The Dalles has dropped as a result of light snowfall during February. The river is forecast to flow 93.0 million acre feet, which is 88 percent of the 15 year normal (1943-57) for the April-September period.

SNOW COVER

Snow courses, measured near March 1 in the United States and Canada indicate well below normal snowfall throughout the month of February. The northern portion of the Columbia Basin in Canada has a snowpack below normal, and the remainder of the basin in Washington, Oregon, Montana, Western Wyoming and Idaho is close to or well below average.

SOIL MOISTURE

Soil moisture conditions in the northern portion of Columbia Basin are poorer than they have been for many years. Base flow figures which usually reflect soil moisture status also indicate dry conditions on most northern tributaries. Base flow on the Kootenai River, however, is close to normal.

The number of soil moisture measurements made by means of electrodes in the soil beneath the snow has been increased significantly but records ore short. However, experience indicates that soil moisture conditions in general are much drier than last year for most tributaries in the Columbia Basin and drier than normal.

STREAMFLOW

Flow of the Columbia River near The Dalles* has been below normal and steadily declining since October 1st.

Month	Percent of Normal Discharge (1943-57)
October	91 adjusted for storage
November	80 " " "
December	73 " " "
January	82 " " "
February	98 " " "

*Preliminary data furnished by U.S. Geological Survey, Portland, Oregon

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M.W. NELSON - P.O. BOX 1247, BOISE, IDAHO

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
1057	Columbia at The Dalles	93,000	April-Sept.	106,100	88
		63,400	April-June	72,000	88

HISTORICAL DATA (Columbia River at The Dalles)

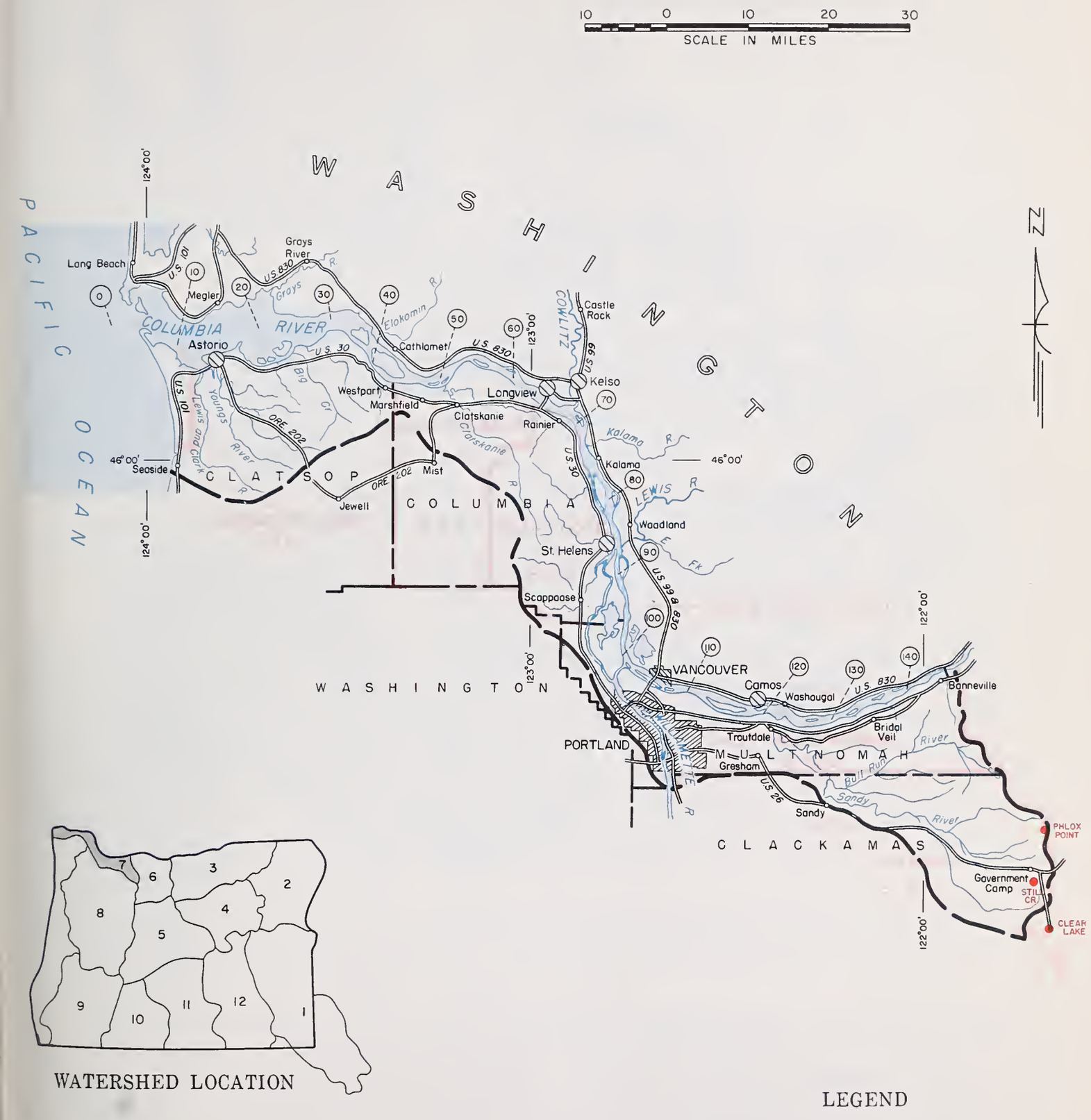
YEAR	STREAMFLOW[c] (1,000 A.F.) APR.—SEPT.	APR.—JUNE	MAY—JUNE	PEAK[e] (1,000 c.f.s)	DATE
1943	115,000	75,300	52,400	541	June 21
1944	61,900	39,200	32,100	326	June 19
1945	81,600	54,600	47,300	505	June 8
1946	108,100	75,400	59,600	581	May 30
1947	100,300	70,000	56,800	536	May 11
1948	130,500	94,600	81,900	999	May 31
1949	95,700	71,400	56,000	622	May 18
1950	120,400	74,700	61,200	744	June 25
1951	113,000	75,600	59,100	597	May 26
1952	107,700	77,500	57,300	557	May 28
1953	100,600	64,900	55,800	609	June 17
1954	119,500	70,500	59,300	561	May 23
1955	99,500	58,300	50,300	545	June 26
1956	131,400	96,900	75,800	815	June 3
1957	105,700	80,500	67,200	700	May 22
1943-57 Avg.	106,100	72,000	58,100	616	
1958	97,700	72,000	58,600	593	May 31
1959	112,500	71,900	58,900	555	June 23

LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)[f]

VANCOUVER[g] GAGE (Weather Bu.)	FLOW AT THE DALLES (1,000 c.f.s)	DRAINAGE DISTRICT PUMPHOUSE SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	WOODSON
		RIVER MILES 118.9	96.0	91.0	77.0	62.0	52.0	47.0
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	940	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	890	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	840	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	790	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	750	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	700	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	660	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	630	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	590	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	560	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20	530	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	510	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	480	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	450	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	430	22.4	16.5	15.5	13.0	10.5	9.3	8.7

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Observed flow corrected for storage in F.D.R., Kootenai, Pend Oreille, Flathead, Hungry Horse, Lake Chelan, Coeur d'Alene and Grand Coulee Equalizer. (d) Not scheduled. (e) Observed peak. (f) Based on Corps of Engineers automatic water stage recorder-data. (g) Vancouver Weather Bureau gage zero is 1.82' above M.S.L. All other readings are in feet above M.S.L.

LOWER COLUMBIA WATERSHEDS



WATERSHED LOCATION

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- (50) River Miles
- Snow Course

Lower Columbia Watersheds

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
WILLAMETTE WATERSHEDS
OREGON

as of
MARCH 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK - The 1962 water supply outlook for the Willamette Valley has been dimmed slightly from the near average outlook one month ago by less than average February increases to the snowpack. Month-end storms should improve the situation, however. Soil moisture was improved by February thaws and reservoirs are beginning to fill.

SNOW COVER - Water content of the snowpack was 35 percent below normal when measured just prior to March 1st although still 75 percent better than last year at this time. Storms occurring on March 1st and 2nd were too late to be included in most of this month's snow surveys but should improve the picture greatly if they continue throughout March.

SOIL MOISTURE - Watershed soil moisture has improved during February. This is particularly true at lower elevations where snow fell and melted several times during the month. Soils should now be fairly well primed except at the highest elevations on the Cascades under the snowpack. Soils in the higher areas will still take some moisture when spring snowmelt begins, to finish priming the soil.

RESERVOIR STORAGE - Six multi-purpose reservoirs operated by the U. S. Corps of Army Engineers on Willamette tributaries have started to fill accoring to a pre-arranged flood control plan.

STREAMFLOW - Streamflow during February was only half of the 1943-57 average on the Middle Fork of the Willamette*. This stream has averaged only 71 percent of its usual flow for the October 1 - March 1 period.

Forecasts of streamflow for the April-September irrigation season have been dropped 3 - 10 percent on most streams in the basin as a result of below normal increases in snow water accumulation on the watershed. These forecasts now range from 82 percent on the Clackamas at Big Bottom to 91 percent on the McKenzie at McKenzie Bridge. The Willamette at Salem is expected to flow 4,720,000 acre feet or 86 percent of the 1943-57 average.

The Molalla, Pudding, Calapooya and smaller streams are expected to have better flows than the last two or three years.

*Preliminary data furnished by U.S. Geological Survey, Portland, Oregon

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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Calapooya	Average	Fair
Clackamas	Average	Fair
McKenzie	Average	Average
Molalla	Average	Fair
Santiam, North	Average	Fair
Santiam, South	Average	Fair
Willamette, Coast Fork	Average	Fair
Willamette, Middle Fork	Average	Average

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Cottage Grove	30.8*	7.7	8.0	9.7
Detroit	299.9*	74.1	136.8	79.3
Dorena	70.5*	15.1	17.9	23.0
Fern Ridge	94.2*	31.7	38.7	35.1
Hills Creek Res.	249.0*	61.1	- -	- -
Lookout Point	337.2*	17.6	98.0	- -

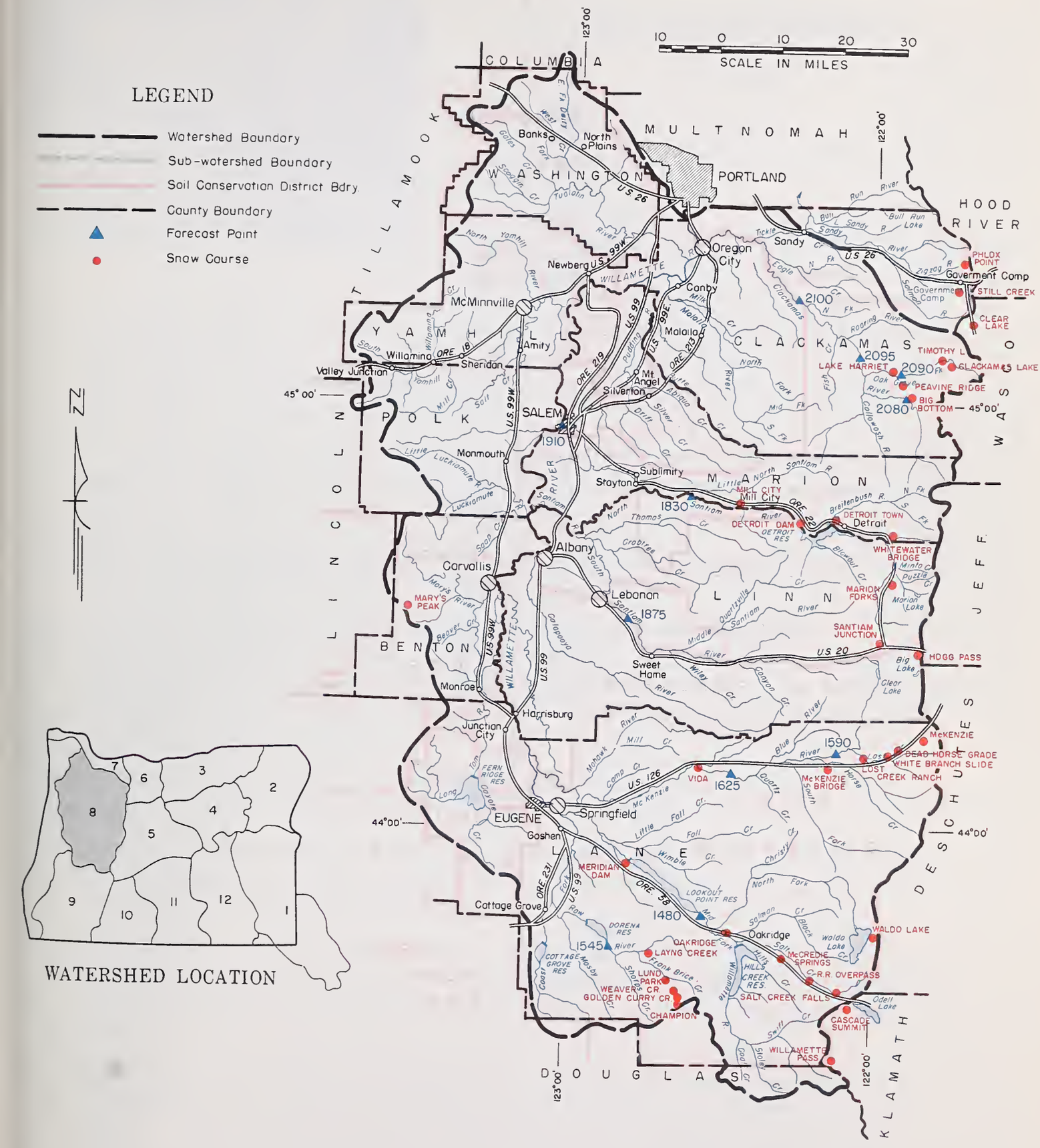
*Multiple purpose reservoir--space reserved primarily for flood runoff.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
2080	Clackamas at Big Bottom	151	April-Sept.	184	82
		121	April-July	150	81
2100	Clackamas at Estacada	750	April-Sept.	879	85
		681	April-July	763	89
2095	Clackamas above Three Lynx	565	April-Sept.	674	84
		476	April-July	578	82
1590	McKenzie at McKenzie Bridge	581	April-Sept.	640	91
		443	April-July	488	91
1625	McKenzie near Vida	1223	April-Sept.	1362	90
		1003	April-July	1120	90
2090	Oak Grove Fork above Power Intake	173	April-Sept.	198	87
		134	April-July	156	86
1545	Row near Dorena	96	April-Sept.	114	84
		92	April-July	109	84
1830	Santiam, North at Mehama[d]	807	April-Sept.	968	83
		715	April-July	866	83
1875	Santiam, South at Waterloo	565	April-Sept.	652	87
		532	April-July	616	86
1480	Willamette, Mid. Fk. blw. N. Fk. nr. Oakridge	820	April-Sept.	909	90
		724	April-July	804	90
1910	Willamette at Salem[d]	4720	April-Sept.	5461	86
		4200	April-July	4942	85

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (*) 1943-57 Adjusted average.

WILLAMETTE WATERSHEDS



Willamette Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE
Big Bottom	2118	g				
Cascade Summit	4880	2/27	66	23.8	15.0	30.6*
Champion	4500	2/27	54	17.8	8.4	24.7
Clackamas Lake	3400	2/23	28	7.3	2.3	14.4*
Clear Lake	3500	2/27	8	1.9	0.4	14.0*
Clear Lake Experimental	3500	2/27	24	7.0	2.0	- -
Dead Horse Grade	3800	2/27	34	12.6	5.0	21.7*
Detroit Town	1610	2/26	0	0.0	0.0	1.8*
Detroit Dam	1580	2/26	T	T	0.0	0.8*
Golden Curry Creek	3136	2/27	6	0.7	2.5	6.6*
Hogg Pass	4755	2/26	90	33.4	19.5	42.0
Lake Harriet	2045	3/2	24	2.5	0.5	3.8*
Layng Creek	1200	2/27	0	0.0	0.0	0.0*
Lost Creek Ranch	1956	2/27	0	0.0	T	- -
Lund Park	1740	2/27	0	0.0	0.0	1.3*
Marion Forks	2730	2/26	22	8.3	1.3	15.9
Marys Peak	3620	g				
McCredie Springs	2120	2/27	T	T	0.0	0.9*
McKenzie	4800	2/27	89	35.6	22.6	43.3*
McKenzie Bridge	1372	2/27	0	0.0	0.0	1.6*
Meridian Dam	750	2/27	0	0.0	0.0	0.0*
Mill City	826	2/26	0	0.0	0.0	0.0*
Oakridge	1310	2/27	T	T	0.0	T*
Peavine Ridge	3500	g				
Phlox Point	5600	3/2	136	46.1	41.5	60.3
Railroad Overpass	2750	2/27	T	T	T	4.6*
Salt Creek Falls	4000	2/27	35	13.2	2.8	17.0*
Santiam Junction	3990	2/26	44	16.4	5.8	25.3
Still Creek	3700	2/26	36	11.9	7.9	25.5
Timothy Lake	3295	3/2	51	11.9	5.5	- -
Vida	800	2/27	0	0.0	0.0	0.0*
Waldo Lake	5500	2/21	69	24.2	- -	- -
Weaver Creek	2440	2/27	3	0.6	0.0	2.7*
White Branch Slide	2800	2/27	8	2.2	0.8	8.8*
Whitewater Bridge	2175	2/26	2	0.4	0.0	7.9*
Willamette Pass	5600	2/19	95	33.4	23.1	38.3*

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
ROGUE, UMPQUA, WATERSHEDS
OREGON

as of
MARCH 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE · OREGON
AGRIC. EXPERIMENT STATION · OREGON STATE ENGINEER

GENERAL OUTLOOK - The 1962 water supply outlook for the Rogue-Umpqua Basin has been dimmed slightly from the near average outlook of February 1st. Snow cover did not receive normal February increases and streamflow has been only little better than half normal during the month.

SNOW COVER - Water content of the snowpack just prior to March 1st was 18 percent below the 1943-57 average although still 51 percent better than last year at this time.

SOIL MOISTURE - Soil moisture was improved by February thaws and the top 3 or 4 feet of watershed soils should be well primed for later runoff.

RESERVOIR STORAGE - Fish Lake and Fourmile Lake together now hold 8,100 acre feet of water compared with 7,100 a year ago on March 1st. Howard Prairie and Emigrant reservoirs contain 47,500 acre feet compared with 31,900 acre feet last year at this time. Hyatt Prairie now holds 7,700 acre feet compared with only 2,800 acre feet on March 1 last year.

STREAMFLOW - Streamflow forecasts have dropped 3 - 12 percent during February as a result of reduced snow water accumulation for the month.

Little Butte, North Fork at Fish Lake, is forecast to flow 15,200 acre feet during the April-September period. Fourmile Lake is expected to receive 7,200 acre feet during the March-September season.

Little Butte, South Fork, near Lake Creek forecast is now 38,000 acre feet for the April-July period with the minimum flow dropping to 100 c.f.s. by June 3rd. The inflow to Hyatt Lake is forecast to be 5,200 acre feet for the April-September period.

The forecast for the Rogue at Raygold has dropped from 98 to 90 percent of the 1943-57 average and is now expected to flow 905,000 acre feet this irrigation season. There is still no evidence that canal rotation will be required in the Grants Pass Irrigation District this year. The Applegate near Copper and the Illinois at Kerby are forecast to flow 80 and 95 percent of average respectively during the irrigation season. North Umpqua below Lemolo is expected to flow 155,000 acre feet or 83 percent for the April-September period.

Report prepared by
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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Althouse Creek	Fair	Fair
Applegate River, Big	Fair	Fair
Applegate River, Little	Fair	Fair
Ashland Creek	Fair	Fair
Butte Creek, Little	Average	Fair
Butte Creek, Big	Average	Fair
Cow Creek	Fair	Fair
Deer Creek	Fair	Fair
Elk Creek	Average	Fair
Emigrant Cr. (above Res.)	Fair	Fair
Evans Creek	Fair	Fair
Gold Hill Irrigation Dist.	Average	Average
Grants Pass Irrig. Dist.	Average	Average
Grave Creek	Fair	Fair
Illinois River, East Fork	Average	Fair
Illinois River, West Fork	Average	Fair
Jump-off-Joe Creek	Fair	Fair
Neil Creek	Fair	Fair
Red Blanket Creek	Average	Fair
Rogue River	Average	Average
Sucker Creek	Fair	Fair
Table Rock Irrig. Dist.	Average	Average
Thompson Creek	Fair	Fair
Wagner Creek	Fair	Fair
Williams Creek	Fair	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

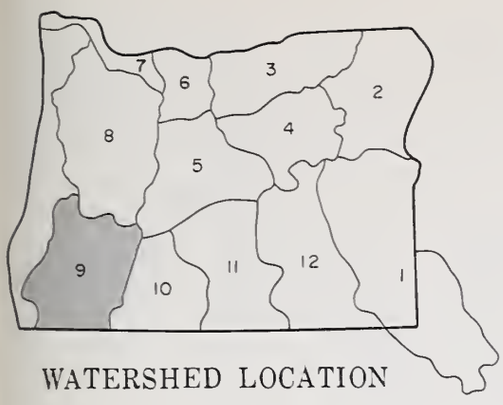
RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Emigrant Gap	39.0	27.0	17.4	6.1
Fish Lake	7.8	4.3	3.8	5.3
Fourmile Lake	16.1	3.8	3.3	8.7
Howard Prairie	60.0	20.5	14.5	- -
Hyatt Prairie	16.1	7.7	2.8	7.0

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
3620	Applegate near Copper	105	April-Sept.	131	80
3145	Clearwater above Trap Creek[d]	57	April-Sept.	73	78
5045	Fourmile Lake net Inflow[d]	7.2	March-Sept.	7.6	95
5140	Hyatt Reservoir net Inflow[d]	5.2	April-Sept.	6.2	84
3770	Illinois River at Kerby[d]	298	March-July	314	95
3425	Little Butte, N. Fk. at Fish Lake nr. Lk. Cr.[d]	15.2	April-Sept.	16.9	90
3415	Little Butte, S. Fk. nr. Lake Creek	38	April-July	42	90
	Note: Minimum flow will drop to 100 c.f.s. by June 3.				
3280	Rogue above Prospect	315	April-Sept.	351	90
		265	April-July	293	90
3320	Rogue, South Fork near Prospect[d]	73	April-Sept.	83	88
		61	April-July	71	86
3350	Rogue below South Fork	665	April-Sept.	749	89
		540	April-July	608	89
3590	Rogue at Raygold near Central Point	905	April-Sept.	1004	90
		750	April-July	842	89
3615	Rogue at Grants Pass	875	April-Sept.	974	90
3135	Umpqua, North blw. Lemolo Res. nr. Toketee Falls	155	April-Sept.	186	83

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not Surveyed. (h) Construction. (i) 7 of 18 sampling points. (j) Partly estimated. (*) 1943-57 Adjusted average.

ROGUE, UMPQUA WATERSHEDS



WATERSHED LOCATION

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- ● Snow Course

Rogue, Umpqua Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE
Althouse	4530	2/27	10	2.3	0.7	5.8
Annie Spring	6018	2/27	102	33.8	28.2	41.0
Beaver Dam Creek	5100	2/27	36	10.9	2.3	- -
Big Red Mountain	6500	2/25	73	23.2	19.6	24.4*
Billie Creek Divide	5300	2/27	53	18.8	11.5	23.6
Champion	4500	2/27	54	17.8	8.4	24.7
Cold Springs Camp	6100	2/26	86	29.4	22.3	- -
Deadwood Junction	4600	2/27	29	8.9	3.8	- -
Diamond-Crater Summit	5800	2/21	94	30.3	21.5	- -
Diamond Lake	5315	2/21	53	18.8	11.0	23.0
Eden Valley Summit	2390	g				
Fish Lake	4865	2/27	31	12.1	4.2	12.0
Fourmile Lake	6000	2/27	58	20.4	19.4	26.0*
Grayback Peak	6000	3/2	77	18.6	8.5	23.4
Hazel View	2500	2/27	0	0.0	0.0	- -
Hobart Lake	5010	g				
Howard Prairie	4500	2/27	32	9.7	2.6	- -
Hyatt Prairie Reservoir	4900	2/27	27	7.8	1.7	9.5*
Little Red Mountain	6500	2/25	52	15.5	14.3	19.1*
North Umpqua	4215	3/3	32	13.5	2.8	14.0*
Page Mountain	4045	2/27	3	0.6	0.0	- -
Park Headquarters	6450	2/27	123	39.1	40.3	51.7*
Red Butte #1	4560	2/26	25	7.8	4.3	- -
Red Butte #2	4000	2/26	8	2.0	2.7	- -
Red Butte #3	3500	2/26	6	1.6	- -	- -
Red Butte #4	3000	2/26	2	0.7	1.6	- -
Red Butte #5	2500	2/26	0	0.0	0.4	- -
Red Butte #6	2000	2/26	0	0.0	- -	- -
Rye Spring Spur	5000	2/27	28	10.3	3.1	- -
Seven Lakes #1	6800	2/23	119	45.5	36.0	51.0*
Seven Lakes #2	6200	2/23	105	37.0	26.9	37.3*
Silver Burn	3720	2/26	22	7.8	1.7	13.3
Siskiyou Summit	4630	2/25	8	2.4	0.6	7.1*
South Fork Canal	3500	2/26	T	T	0.0	3.4
Trap Creek	3800	3/3	24	10.7	0.6	- -
Wagner Butte	6900	g				
Whaleback	5140	2/26	77	26.3	16.5	33.1*
Windigo Pass	5800	2/20	95	37.7	27.2	40.0*

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
KLAMATH WATERSHEDS
OREGON

as of
MARCH 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE · OREGON
AGRIC. EXPERIMENT STATION · OREGON STATE ENGINEER

GENERAL OUTLOOK - The 1962 water supply outlook for Klamath Basin has improved slightly over the adequate outlook of February 1st, and month-end storms have continued to pile up the snow.

SNOW COVER - Water content of the mountain snowpack is 21 percent greater than the 15 year average (1943-57) on the watersheds of Lost and Sprague Rivers and 16 percent less than average on the Cascade side of the basin. Snow is double that of last year on March 1st on the east side and one-third greater than last year on the west side of the basin.

Watershed conditions are such that a "Chinook" occurring in the next few weeks could produce runoff of proportions greater than expected in present forecasts.

SOIL MOISTURE - The top 3 or 4 feet of soils on upper watersheds under the snowpack are still relatively dry and will soak up early snowmelt water. Soils at lower elevations were well recharged with moisture during the mid-February thaw.

RESERVOIR STORAGE - With the exception of Upper Klamath Lake, reservoir water supplies are extremely low - a reflection of three consecutive dry years.

Gerber reservoir now contains 6,300 acre feet compared with 12,600 last year at this date. Average storage for March 1 is 38,300 acre feet. Clear Lake reservoir holds 79,300 acre feet compared with 115,200 acre feet last year and an average of 224,000 acre feet. Clear Lake gained better than 22,000 acre feet in the mid-February thaw but Gerber picked up only 4,500 acre feet.

STREAMFLOW - Forecasts of inflow to Gerber and Clear Lake reservoirs in the March-June period are 41,000 and 80,000 acre feet respectively. These flows will be about 92 percent of the 1943-57 average for the period and should provide sufficient water for a reasonable irrigation season.

Inflow to Upper Klamath Lake is forecast at 900,000 acre feet or 110 percent of the average March-September period. This should be adequate for irrigation needs. Flows of the Sprague and Williamson Rivers are expected to be 107 percent of average.

Report prepared by
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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Ft. Klamath Valley	Average	Average
Lost River (Clear Lake)	Average	Average
Lost River (Gerber)	Average	Average
Lost River (Willow Res.)	Average	Average
Sprague River	Average	Average
Upper Klamath Lake	Average	Average
Williamson River	Average	Average

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Clear Lake	440.2	79.3	115.2	224.0
Gerber	94.0	6.3	12.6	38.3
Upper Klamath Lake	584.0	367.7	411.2	390.0

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

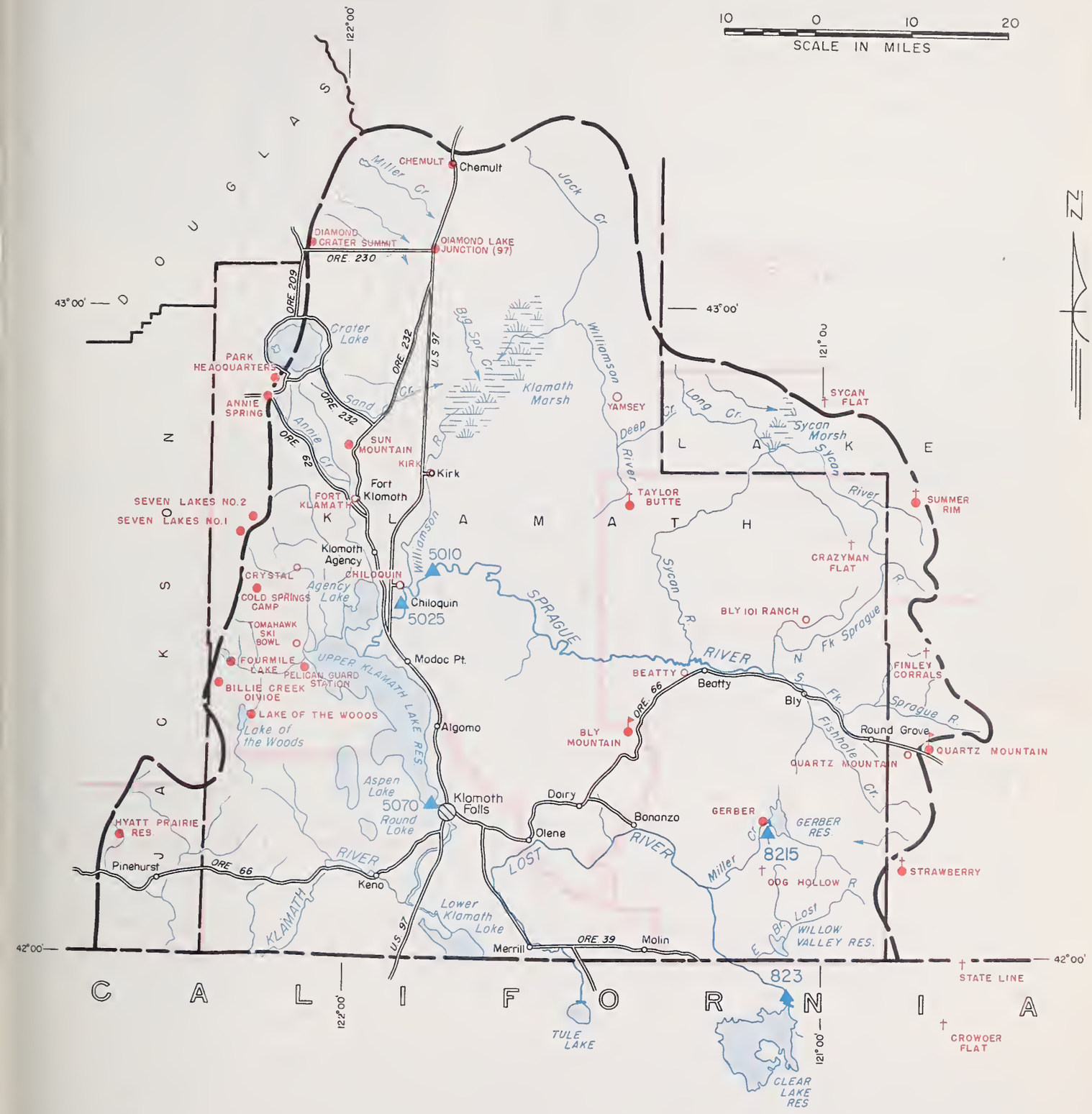
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
823	Clear Lake Reservoir Inflow [g]	80	March-June	87	92
8215	Gerber Reservoir Inflow [g]	41	March-June	44	93
5010	Sprague near Chiloquin	380	March-Sept.	354	107
5070	Upper Klamath Lake net Inflow [g]	900	March-Sept.	816	110
5025	Williamson below Sprague River	624	March-Sept.	590	106

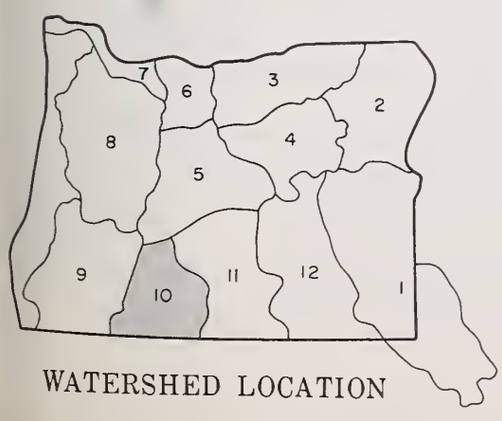
AVAILABLE SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Bly Mountain	5090	42	7.4	2/27/62	2.2	- -	- -
Quartz Mountain	5320	48	10.7	2/27/62	1.1	- -	- -

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) From COPCO or USBR records of inflow. (h) Flashboards increase capacity to 513.0 (i) Water content partly estimated. (*) 1943-57 Adjusted average.

KLAMATH WATERSHEDS





WATERSHED LOCATION

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- ● Snow Course
- † Aerial Snow Depth Gage
- ○ COPCO Snow Station
- ▸ Soil Moisture Station

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1943-57 AVERAGE
Annie Spring	6018	2/27	102	33.8	28.2	41.0
Beatty (PP&L)	4300	*f*				
Billie Creek Divide	5300	2/27	53	18.8	11.5	23.6
Bly Mountain	5090	2/27	24	8.4	3.8	- -
Bly 101 Ranch (PP&L)	4800	*f*				
Chemult	4760	2/26	26	8.3	4.4	12.2
Chiloquin (PP&L)	4187	*f*				
Cold Springs Camp	6100	2/26	86	29.4	22.3	- -
Crazyman Flat [e]	6100	2/23	36	10.8	7.4	- -
Crowder Flat [e]	5200	2/23	9	2.7	0.7	3.9*
Crystal (PP&L)	4200	*f*				
Diamond-Crater Summit	5800	2/21	94	30.3	21.5	- -
Diamond Lake Junction (97)	4600	2/21	20	5.5	T	- -
Dog Hollow [e]	4900	2/23	2	0.6	0.0	- -
Finley Corrals [e]	6000	2/23	54	16.2	12.2	- -
Fort Klamath (PP&L)	4150	*f*				
Gerber	4850	2/28	7	3.8	0.0	2.6*
Hyatt Prairie Reservoir	4900	2/27	27	7.8	1.7	9.5*
Kirk (PP&L)	4533	*f*				
Lake of the Woods	4960	2/27	32	11.9	8.3	11.2
Park Headquarters	6450	2/27	123	39.1	40.3	51.7*
Pelican Guard Station	4150	2/26	9	4.4	T	- -
Quartz Mountain	5320	2/27	27	9.2	2.0	6.3
Quartz Mountain (PP&L)	5504	2/27	30	9.6	2.5	6.4*
Seven Lakes #1	6800	2/23	119	45.5	36.0	51.0*
Seven Lakes #2	6200	2/23	105	37.0	26.9	37.3*
State Line [e]	5750	2/23	41	12.3	4.6	- -
Strawberry	5600	2/26	36	9.8	4.2	8.2*
Summer Rim	7200	2/27	52	16.0	13.9	14.7*
Sun Mountain	5350	2/22	64	19.3	14.6	25.4
Sycan Flat [e]	5500	2/23	27	8.1	3.2	- -
Taylor Butte	5100	2/20	22	7.5	2.0	- -
Tomahawk Ski Bowl (PP&L)	4200	*f*				
Yamsey (PP&L)	4600	*f*				

"The Conservation of Water begins with the Snow Survey"

Area 11

WATER SUPPLY OUTLOOK
LAKE COUNTY, GOOSE LAKE WATERSHEDS
OREGON

as of

MARCH 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE · OREGON
AGRIC. EXPERIMENT STATION · OREGON STATE ENGINEER

GENERAL OUTLOOK - Lake County's 1962 water supply outlook has improved slightly and nearly adequate supplies of water are now expected for this season's irrigation. Stored water supplies are still much below the average for March 1st.

Watershed conditions are such that a "Chinook" occurring in the next few weeks could produce runoff of proportions greater than expected in present forecasts.

SNOW COVER - Water content of the mountain snowpack is now 18 percent greater than average for March 1st and is double that of last year at this date.

The mid-February thaw removed practically all snow below about 5000 feet but fortunately this has since been replaced by late storms.

SOIL MOISTURE - Moisture in the top 3 or 4 feet of watershed soils under the snow is still extremely "short" in upper elevations above about 5300 feet elevation. However, below that point the soils were well recharged by the mid-February thaw.

RESERVOIR STORAGE - Stored water in Cottonwood and Drew reservoirs is estimated at about 4,600 acre feet compared with 13,800 acre feet a year ago and an average storage of 41,400 acre feet.

STREAMFLOW - Forecasts of seasonal flow of Lake County streams are all somewhat below the 15 year average (1943-57) except for the Chewaucan River where a flow of 100,000 acre feet (109 percent average) is expected for the March-June period.

Forecast of inflow to Drews Valley reservoir, which serves Lakeview Water Users, Inc., is upped from the February 1st estimate to 45,000 acre feet for the March-July period (96 percent of average). This should provide sufficient water for a reasonably satisfactory season.

Warner Valley water supplies, where storage facilities are limited, are not quite so satisfactory, since dry soils will soak up considerable snowmelt water. Twenty-mile Creek is expected to produce 24,000 acre feet or 86 percent of the March-June average. Likewise, Honey Creek near Plush is forecast to produce 16,700 acre feet or 87 percent of its average March-June flow.

Deep Creek, with higher elevations in the watershed, is expected to flow 45,000 acre feet or 96 percent of its March-July average. Water for Crump, Hart and other Warner lakes should be in better supply than for several years.

Flows of Crooked Creek, Duncan, Silver, Bridge and Beech Creeks should likewise be better than in any year since 1958.

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WATER SUPPLY OUTLOOK expressed as "Poor", "Foir" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Chewaucan River	Average	Fair
Crooked Creek	Average	Fair
Deep Creek	Average	Fair
Dry Creek	Average	Fair
East Side Goose Lake	Average	Fair
Guano Lake	Average	Fair
Honey Creek	Average	Fair
Lakeview Water Users Assn.	Average	Fair
Rock Creek (Hart Mtn.)	Average	Fair
Silver-Buck Creeks	Average	Fair
Summer Lake	Average	Fair
Thomas Creek	Average	Fair
Twentymile Creek	Average	Fair
Warner Lakes	Average	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Cottonwood	4.1	0.2	1.2	0.7
Drew	63.0	4.4	12.6	40.7

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
3840	Chewaucan near Paisley	100	March-June	92	109
3715	Deep above Adel	82	March-June	83	99
3385	Drew Reservoir net Inflow	45	March-July	47	96
3785	Honey near Plush	16.7	March-June	19.2	87
3660	Twentymile near Adel	24	March-June	28	86

AVAILABLE SOIL MOISTURE

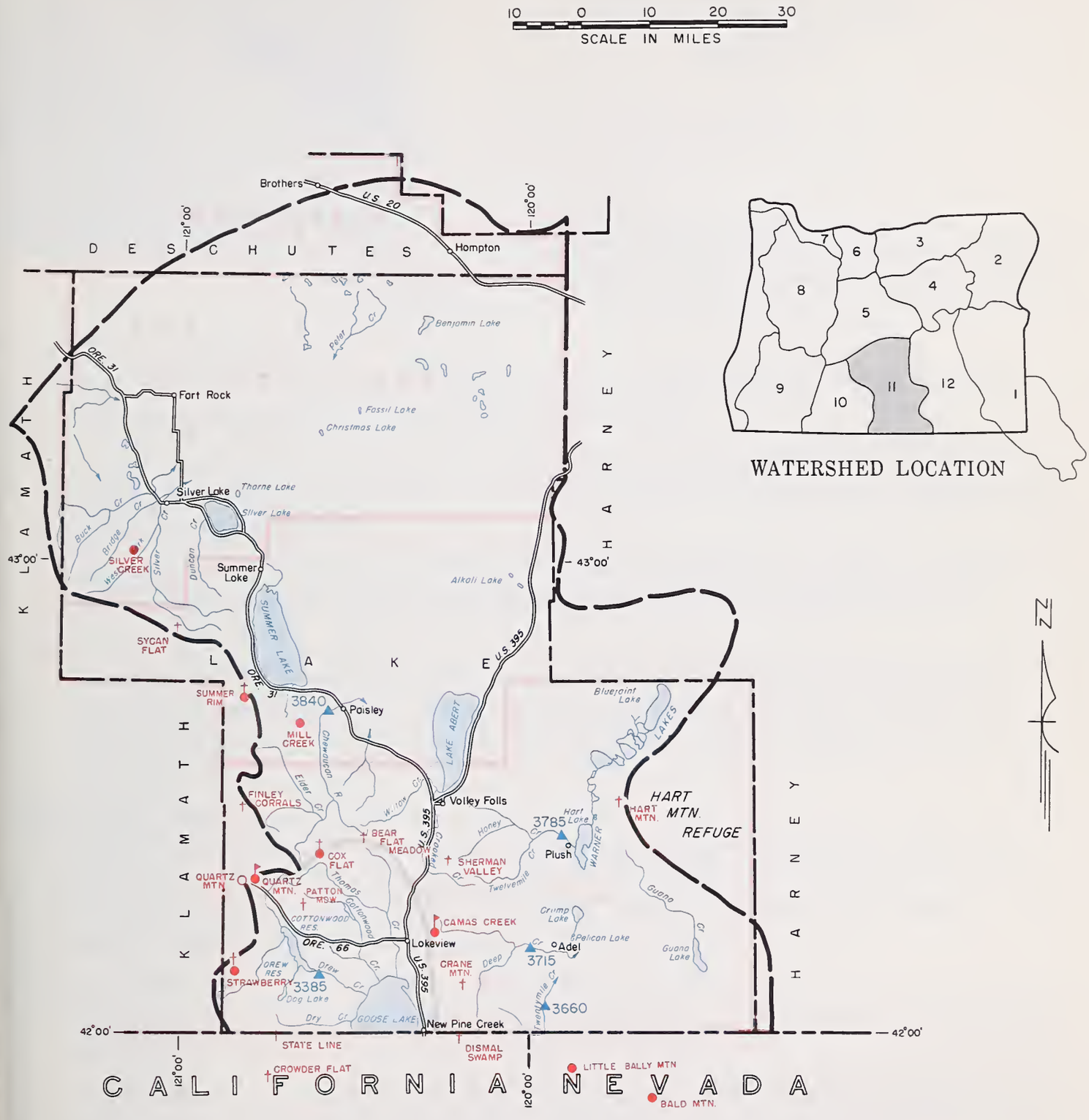
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Quartz Mountain	5320	48	10.7	2/27/62	1.1	- -	- -

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
					LAST YEAR	1943-57 AVERAGE
Bald Mountain (Nev.)	6720	2/28	21	6.0	2.0	3.3
Bear Flat Meadow[e]	5900	2/23	42	12.6	7.7	- -
Camas Creek	5720	2/24	38	11.8	7.1	11.0*
Cox Flat[e]	5750	2/23	37	11.1	0.0	- -
Crane Mountain[e]	6020	2/22	24	7.2	2.1	- -
Crowder Flat[e]	5200	2/23	9	2.7	0.7	3.9*
Dismal Swamp[e] (Calif.)	7000	2/22	60	18.0	13.0	- -
Finley Corrals[e]	6000	2/23	54	16.2	12.2	- -
Hart Mountain[e]	6350	2/22	15	4.5	0.0	- -
Little Bally Mountain[e]	6600	2/22	15	4.5	1.6	- -
Mill Creek	6200	2/21	38	7.9	6.4	8.1
Quartz Mountain (PP&L)	5504	2/27	30	9.6	2.5	6.4*
Quartz Mountain	5320	2/27	27	9.2	2.0	6.3
Sherman Valley[e]	6600	2/22	50	15.0	9.8	- -
Silver Creek	4900	2/26	16	4.4	0.0	3.7
State Line[e]	5750	2/23	41	12.3	4.6	- -
Strawberry	5600	2/26	36	9.8	4.2	8.2*
Summer Rim	7200	2/27	52	16.0	13.9	14.7*
Sycan Flat[e]	5500	2/23	27	8.1	3.2	- -

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (*) 1943-57 Adjusted average.

LAKE COUNTY, GOOSE LAKE WATERSHEDS



WATERSHED LOCATION

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- ● Snow Course
- † Aerial Snow Depth Gage
- ○ COPCO Snow Station
- ▸ Soil Moisture Station

WATER SUPPLY OUTLOOK
HARNEY BASIN WATERSHEDS
OREGON

as of
MARCH 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE · OREGON
AGRIC. EXPERIMENT STATION · OREGON STATE ENGINEER

GENERAL OUTLOOK

The outlook for 1962 irrigation water supplies in Harney County is much improved with strong indications of a satisfactory season ahead.

A mid-February thaw removed most of the snowpack below 5000 feet elevation and added good moisture to the soils. Fortunately, month-end storms have replaced much of the low elevation snow.

Watershed conditions are such that a "Chinook" occurring in the next few weeks could produce runoff of proportions greater than expected in present forecasts.

SNOW COVER

Water content of the mountain snowpack in Harney Basin is 8 percent below the 1943-57 average but it is 64 percent greater than that of last year on March 1st. The snowpack is slightly better in the north part of the basin compared with the south half.

SOIL MOISTURE

Moisture in the top 3 to 4 feet of soils under the snowpack above about 5000 feet elevations is still only 57 percent of capacity and is less than last year at this date. These dry soils will soak up some of the early snowmelt water as runoff begins. Lower elevations soils are much wetter.

STREAMFLOW

Forecasts for spring and summer streamflow have been raised because of the increased snowpack.

Flow of the Silvies River for the March-June period is forecast at 140,000 acre feet or 113 percent of the 1943-57 average. Forecast for Silver Creek near Riley is set at 108 percent average or 28,000 acre feet for the April-July period.

In southern Harney County the Blitzen River is forecast at 70,000 acre feet or 103 percent of the March-June average. Trout Creek near Denio is expected to produce 11,000 acre feet or 116 percent of the March-July period average.

Report prepared by
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WATER SUPPLY OUTLOOK expressed as "Poor", "Foir" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Catlow Valley	Average	Fair
Cow Creek	Average	Fair
Donner und Blitzen River	Average	Fair
Mill-Coffeepot Creeks	Average	Fair
Rattlesnake Creek	Average	Fair
Rock Creek (Hart Mtn.)	Average	Fair
Silver Creek	Average	Fair
Silvies River	Average	Fair
Soldier-Prather Creeks	Average	Fair
Trout Creek	Average	Fair
Whitehorse Creek	Average	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
3960	Donner und Blitzen near Frenchglen	65	March-June	63	103
4030	Silver near Riley	28	April-July	26	108
3935	Silvies near Burns	140	March-June	124	113
4065	Trout near Denio	11.0	March-July	9.5	116

AVAILABLE SOIL MOISTURE

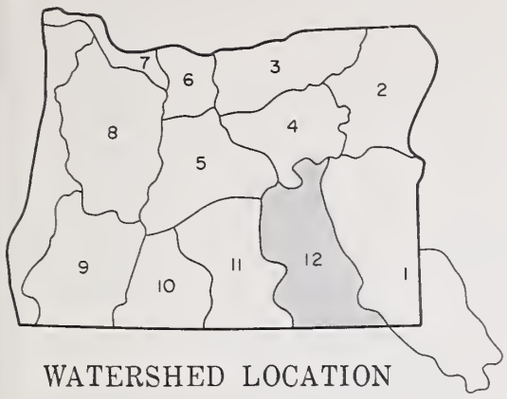
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Blue Mountain Springs	5900	42	12.0	2/26/62	3.0	4.5	- -
Fish Creek	7600	48	9.5	2/22/62	3.4	- -	- -
Folly Farm	4450	36	8.3	2/23/62	4.4	4.8	5.3
Silvies	6900	48	10.3	2/22/62	6.6	- -	- -
Snow Mountain	6300	48	10.4	2/20/62	8.4	- -	- -
Starr Ridge	5150	36	6.1	2/26/62	4.1	5.0	5.1
Stinking Water	4800	48	11.7	2/23/62	10.2	11.2	10.3
Willow-Bald	5000	24	4.3	2/20/62	1.1	4.3	2.2

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1943-57 AVERAGE
Blue Mountain Spring	5900	2/26	44	13.0	10.9	15.2
Buck Pasture[e]	5700	2/26	8	2.6	1.3	- -
Buckskin Lake[e]	5200	2/22	T	T	- -	- -
Call Meadows[e]	5340	2/26	21	5.9	2.6	- -
Delintment Lake	5600	2/20	32	7.7	- -	- -
Denio Creek[e]	6000	2/22	2	0.6	0.0	- -
Disaster Peak	6500	f				
Emigrant Butte	5000	2/20	19	5.8	- -	- -
Fish Creek[e]	7900	2/22	65	18.1	16.8	- -
Foster Flat[e]	5020	2/22	1	0.3	- -	- -
Hart Mountain[e]	6350	2/22	15	4.5	0.0	- -
Idlewild Camp	5200	2/27	24	6.6	2.5	5.7
Izee Summit	5293	2/23	32	8.1	5.4	8.1
Lake Creek	5120	2/26	32	8.4	7.3	10.7
Oregon Canyon[e]	6950	2/26	22	7.0	4.6	- -
Rock Spring	5100	2/27	20	5.0	1.7	5.9
Silvies	6900	2/22	34	12.2	6.3	- -
Snow Mountain	6300	2/20	47	12.8	- -	13.0*
Starr Ridge	5150	2/26	19	5.0	2.8	6.0
Stinking Water	4800	2/26	13	4.0	0.0	4.0*
Trout Creek[e]	7800	2/26	28	9.0	5.3	- -
"V" Lake[e]	6600	2/22	12	3.8	2.0	- -

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not surveyed. (h) Partly estimated. (i) No Fall measurement. (j) Nearest current data. (*) 1943-57 Adjusted average.

HARNEY BASIN WATERSHEDS



WATERSHED LOCATION

10 0 10 20 30
SCALE IN MILES

NN

119°00'

44°00'

43°00'

42°00'

C R O O K

DESCHUTES

G R A N T

H A R N E Y

L A K E

M A L H E U R

CATLOW VALLEY

HART MTN. REFUGE

N E V A D A

STARR RIDGE
IZEE SUMMIT
Izee
Seneca
Scotty Cr.
John Day River
BLUE MOUNTAIN SPRINGS
LAKE CREEK
ROCK SPRING
SNOW MOUNTAIN
DELINTMENT LAKE
Emigrant Cr.
Silvies River
U.S. 395
IDLEWILD CAMP
CALL MEADOW
Mill Cr.
Coffeepot Cr.
Rattlesnake Cr.
STINKING WATER
EMIGRANT BUTTE
3935
4030
WILLOW BALD
Silvies River
Horney
Buchanan
Burns
Hines
U.S. 20
U.S. 20 & 395
ORE 78
Crane
Malheur Lake
Princeton
Wogontire
Horney Lake
ORE 205
Donner und Blitzen River
Riddle
Kiger Cr.
Smith Cr.
BUCK PASTURE
Tenmile L.
Folly Farm
FOLLY FARM
BUCKSKIN LAKE
FOSTER FLAT
Juniper Lake
Cucamonga Cr.
McCoy Cr.
Bridge Cr.
Mud Cr.
Frenchglen
SILVIES
3960
Fish Cr.
FISH CREEK
Monns Lake
L. Blitzen R.
Roaring Spring
Indian Cr.
Home Fk.
Cr.
Rock Cr.
HART MOUNTAIN
V LAKE
Skull Cr.
Wildhorse Cr.
Alvord Lake
Willow Cr.
Fields
Trout Cr.
Tumtum L.
4065
BLUE MTN. PASS
OREGON CANYON
Rincon Cr.
Pueblo Cr.
DENIO CREEK
Denio
TROUT CREEK
DISASTER PEAK

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Aerial Snow Depth Gage
- Soil Moisture Station

OWYHEE, MALHEUR WATERSHEDS (1)

Owyhee River

Number	Name	Sec.	Twp.	Rge.	Elev.
[illegible]	Antelope Ridge (Ida)	32	8S	1W	5900
[illegible]	Barren Valley	26	27S	38E	4200
[illegible]	Battle Creek (Ida)	10	11S	1E	5700
[illegible]	Bear Creek (Nev)	31	46N	55E	7800
[illegible]	Big Bend (Nev)	30	45N	56E	6700
[illegible]	Blue Mtn Pass	4	38S	42E	5090
[illegible]	Buckskin, Lower (Nev)	25	45N	39E	6700
[illegible]	Buckskin, Upper (Nev)	11	45N	39E	7200
[illegible]	Bull Basin (Ida)	29	12S	5W	5600
[illegible]	Disaster Peak (Nev)	5	47N	34E	6500
[illegible]	Fish Creek	4	33S	33E	7900
[illegible]	Folly Farm Summit	8	30S	38E	4450
[illegible]	Fox Creek (Nev)	33	46N	55E	6800
[illegible]	Dry Canyon (Nev)	31	43N	54E	6700
[illegible]	Gold Creek (Nev)	31	45N	56E	6600
[illegible]	Granite Peak (Nev)	22	44N	39E	7800
[illegible]	Hyde Pasture (Ida)	31	9S	2W	5500
[illegible]	Jack Creek, Lower (Nev)	18	42N	53E	6300
[illegible]	Jack Creek, Upper (Nev)	9	42N	53E	7250
[illegible]	Jack Peak (Nev)	28	42N	53E	8420
[illegible]	Jordan Valley	9	30S	46E	4390
17G6a	Lookout Butte	2	40S	47E	5650
[illegible]	Louse Canyon	27	40S	44E	6440
[illegible]	Martin Creek (Nev)	18	44N	40E	6700
16H3	Midas (Nev)	18	39N	46E	7200
[illegible]	Mud Flat (Ida)	34	9S	2W	5500
17G5a	Oregon Canyon	8	40S	40E	6950
17H6a	Quinn Ridge (Nev)	9	47N	41E	6300
16G11a	Red Canyon (Ida)	32	11S	4W	6500
15H6M	Rodeo Flat (Nev)	36	43N	53E	6800
15H3A	76 Creek (Nev)	6	44N	58E	7100
16F3	Silver City (Ida)	6	5S	3W	6400
18G1MA	Silvies	35	32S	32½E	6900
16G1	South Mountain No. 2 (Ida)	35	7S	5W	6340
15F4a	Sucker Creek	Unsurveyed			
15H9M	Taylor Canyon (Nev)	35	39N	53E	6200
15H8	Tremewan Ranch (Nev)	9	39N	55E	5700
16G4MA	Triangle (Ida)	25	7S	3W	5150
18G5a	Trout Creek	10	41S	38E	7800
18G7a	"V" Lake	31	35½S	32½E	6600

Malheur River

Number	Name	Sec.	Twp.	Rge.	Elev.
18E14	Barney Creek	16	14S	36E	5950
18E16M	Blue Mountain Spring	21	15S	35E	5900
18F6a	Buck Pasture	21	29S	35E	5700
18E21a	Bully Creek	10	17S	37E	5300
18F7a	Call Meadows	29	20S	33E	5340
17E2	Clover Creek	36	16S	39E	4100
17F2a	Cottonwood-Indian	10	19S	39E	4320
18E19M	Crane Prairie	24	16S	34E	5375
18F8a	Crow Camp	Unsurveyed			
18E20	Eldorado Pass	20	14S	38E	4600
18E26a	Flag Prairie	32	16S	36E	4750
18E18	Lake Creek	10	16S	33½E	5120
18E22a	Logan Valley	13	16S	33½E	5100
18F1	Rock Spring	23	18S	32E	5100
18F4M	Stinking Water	33	21S	34E	4800

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS (2)

Burnt River

Number	Name	Sec.	Twp.	Rge.	Elev.
18E14	Barney Creek	16	14S	36E	5950
18E13M	Blue Mountain Summit	6	12S	36E	5098
17E1M	Dooley Mountain	32	11S	40E	5430
18E20	Eldorado Pass	20	14S	38E	4600
18E8	Gold Center	21	9S	36E	5340
18E9	Tipton	34	10S	35½E	5100

Powder River

Number	Name	Sec.	Twp.	Rge.	Elev.
18E1	Anthony Lake	18	7S	37E	7125
18E5	Bourne	33	8S	37E	5800
17E1M	Dooley Mountain	32	11S	40E	5430
18E3	Eilertson Meadows	18	8S	38E	5400
18E8	Gold Center	21	9S	36E	5340
18E6	Goodrich Lake	4	9S	38E	6775
18E23	Little Alps	10	7S	37E	6200
18D10	Summit Springs	9	6S	37E	6000
17D7	Taylor Green	3	6S	42E	5740

Pine Creek

Number	Name	Sec.	Twp.	Rge.	Elev.
17D8	Schneider Meadows	35	6S	45E	5400

Grande Ronde River

Number	Name	Sec.	Twp.	Rge.	Elev.
17D1	Aneroid Lake No. 1	16	4S	45E	7480
17D2	Aneroid Lake No. 2	16	4S	45E	7000
18F1	Anthony Lake	18	7S	37E	7125
17D10a	Bald Mountain	14 & 15	4S	41E	6700
18D9	Beaver Reservoir	8	5S	37E	5340
18D8	County Line	28	4S	34E	4800
18D6	Lucky Strike	28	3S	32E	5050
18D5	Meacham	24 & 25	1S	35E	4300
17D6M	Moss Spring	28	3S	41E	5850
18D7	Schoolmarm	28	4S	34E	4775
17D11a	Standley	28	2S	42E	7400
17D7	Taylor Green	3	6S	42E	5740
18D3M	Tollgate	32	4N	38E	5070

Imnaha River

Number	Name	Sec.	Twp.	Rge.	Elev.
17D1	Aneroid Lake No. 1	16	4S	45E	7480
17D2	Aneroid Lake No. 2	16	4S	45E	7000

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS (3)

Umatilla River

Number	Name	Sec.	Twp.	Rge.	Elev.
19D2	Arbuckle Mountain	33	4S	29E	5400
18D14m	Athena-Weston Summit	21	4N	35E	1700
18D12M	Battle Mountain Summit	29	3S	31E	4340
18D4M	Emigrant Springs	29	1N	35E	3925
18D6	Lucky Strike	28	3S	32E	5050
18D5	Meacham	24 & 25	1S	35E	4300
18D3M	Tollgate	32	4N	38E	5070
18D13	Walla Walla Diversion	22	6N	38E	2400

Walla Walla River

Number	Name	Sec.	Twp.	Rge.	Elev.
18D3M	Tollgate	32	4N	38E	5070

Willow Creek

Number	Name	Sec.	Twp.	Rge.	Elev.
19D2	Arbuckle Mountain	33	4S	29E	5400

UPPER JOHN DAY WATERSHEDS (4)

Upper John Day River

Number	Name	Sec.	Twp.	Rge.	Elev.
18E1	Anthony Lake	18	7S	37E	7125
19D2	Arbuckle Mountain	33	4S	29E	5400
18D12M	Battle Mountain Summit	29	3S	31E	4340
19E2	Beech Creek Summit	4	12S	30E	4800
18E16M	Blue Mountain Spring	21	15S	35E	5900
18E13M	Blue Mountain Summit	6	12S	36E	5098
19E3M	Derr	14	13S	23E	5670
18F11	Dixie Springs	28	11S	34E	6650
18E27a	East Fork Canyon	15	15S	32E	5700
18E8	Gold Center	21	9S	36E	5340
18E24a	Indian Cr. Butte	5	15S	33E	6550
19E9	Izee Summit	28	16S	29E	5293
18D6	Lucky Strike	28	3S	32E	5050
20E1M	Marks Creek	25	12S	19E	4540
20E2	Ochoco Meadows	21	13S	20E	5200
18E7	Olive Lake	14	9S	33½E	6000
18D7	Schoolmarm	28	4S	34E	4775
19F1M	Snow Mountain	1	19S	26E	6300
19E7M	Starr Ridge	20	15S	31E	5150
18E9	Tipton	34	10S	35½E	5100
18E25M	Williams Ranch	20	15S	32E	4500

UPPER DESCHUTES, CROOKED WATERSHEDS (5)

Upper Deschutes River

Number	Name	Sec.	Twp.	Rge.	Elev.
21E11	Black Pine Spring	14	16S	9E	4600
21F8	Caldwell Ranch	30	21S	8E	4400
22F3	Cascade Summit	7	23S	6E	4880
21F7	Charlton Lake	23	21S	6E	5750
21F11	Chemult	21	27S	8E	4760
21F14	Fire Road	36	21S	11E	5050
21E6	Hogg Pass	24	13S	7½E	4755
21F4	Hungry Flat	30	18S	11E	4400
21F6	Irish-Taylor	25	20S	6E	5500
21F17	Mowich	29	25S	25E	4700
21F10	New Crescent Lake	11	24S	6E	4800
21F19	New Dutchman Flat #2	21	18S	9E	6400
21F13	Paulina Lake	34	21S	12E	6330
21F15	Paulina Prairie	28	21S	11E	4285
21F3	Tangent	28	18S	10E	5400
21E15	Three Creeks Butte	27	16S	9E	5200
21E13	Three Creek Meadows	3	17S	9E	5600
22F2	Waldo Lake	15	21S	6E	5500
22F14	Willamette Pass	33	24S	5½E	5600
22F15	Windigo Pass	20	25S	6E	5800

Crooked River

Number	Name	Sec.	Twp.	Rge.	Elev.
19E3M	Derr	14	13S	23E	5670
20E1M	Marks Creek	25	12S	19E	4540
20E2	Ochoco Meadows	21	13S	20E	5200
19F1M	Snow Mountain	1	19S	26E	6300
19E4	Tamarack	8	15S	25E	4800

HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS (6)

Hood River

Number	Name	Sec.	Twp.	Rge.	Elev.
21D5	Brooks Meadows	2	2S	10E	4300
21D25	Cooper Spur	6	2S	10E	3490
21D1	Greenpoint Reservoir	28	2N	9E	3400
21D20	Knebal Springs	31	1S	11E	3850
21D23	Parkdale	6	1S	10E	1770
21D8	Phlox Point	6	3S	9E	5600
21D4	Red Hill	21	1S	9E	4400
21D9	Still Creek	25	3S	8½E	3700
21D7	Tilly Jame	15	2S	9E	6000
21D21	Ulrich Ranch Junction	28	1S	11E	3350
21D24	Upper Valley	20	1S	10E	2530

Mile Creeks - Mosier Creek

Number	Name	Sec.	Twp.	Rge.	Elev.
21D6	Brooks Meadows	2	2S	10E	4300
21D20	Knebal Springs	31	1S	11E	3850
21D21	Ulrich Ranch Junction	28	1S	11E	3350

Lower Deschutes River

Number	Name	Sec.	Twp.	Rge.	Elev.
21D12	Clear Lake	29	4S	9E	3500
21E6	Hogg Pass	24	13S	7½E	4755

LOWER COLUMBIA WATERSHEDS (7)

Sandy River

Number	Name	Sec.	Twp.	Rge.	Elev.
21D8	Phlox Point	6	3S	9E	5600
21D9	Still Creek	25	3S	8½E	3700

WILLAMETTE WATERSHEDS (8)

Clackamas River

Number	Name	Sec.	Twp.	Rge.	Elev.
21D15	Big Bottom	25	6S	7E	2118
21D13	Clackamas Lake	35	5S	8½E	3400
21D12	Clear Lake	29	4S	9E	3500
21D16	Lake Harriet	4	6S	7E	2045
21D14	Peavine Ridge	14 & 15	6S	7E	3500
21D8	Phlox Point	6	3S	9E	5600
21D9	Still Creek	25	3S	8½E	3700
21D17	Timothy Lake	26	5S	8E	3295

Santiam River

Number	Name	Sec.	Twp.	Rge.	Elev.
22E1	Detroit (town)	1	10S	5E	1610
22E2	Detroit Dam	7	10S	5E	1580
21F6	Hogg Pass	24	13S	7½E	4755
21E4	Marion Forks	28	11S	7E	2730
22E3	Mill City	29	9S	3E	826
21E5	Santiam Junction	14	13S	7E	3990
21E3	Whitewater Bridge	28	10S	7E	2175

McKenzie River

Number	Name	Sec.	Twp.	Rge.	Elev.
21E8	Dead Horse Grade	13	16S	7E	3800
22E4	Lost Creek Ranch	24	16S	6E	1956
21E7	McKenzie	35	15S	7½E	4800
22E5	McKenzie Bridge	13	16S	5E	1372
22E6	Vida	28	16S	2E	800
21E9	White Branch Slide	15	16S	7E	2800

Middle Fork Willamette River

Number	Name	Sec.	Twp.	Rge.	Elev.
22F3	Cascade Summit	7	23S	6E	4880
22F6	McCredie Springs	26	21S	4E	2120
22F8	Meridian Dam	13	19S	1W	750
22F7	Oakridge	16	21S	3E	1310
22F5	Railroad Overpass	27	22S	5E	2750
22F4	Salt Creek Falls	33	22S	6E	4000
22F2	Waldo Lake	15	21S	6E	5500
22F14	Willamette Pass	33	24S	5½E	5600

Coast Fork Willamette River

Number	Name	Sec.	Twp.	Rge.	Elev.
22F9	Champion	12	23S	1E	4500
22F10	Golden Curry Creek	1	23S	1E	3136
22F13	Layng Creek R. S.	31	21S	1E	1200
22F12	Lund Park	22	22S	1E	1740
22F11	Weaver Creek	35	22S	1E	2440

Mary's River

Number	Name	Sec.	Twp.	Rge.	Elev.
23E1	Mary's Peak	21	12S	7W	3620

ROGUE, UMPQUA WATERSHEDS (9)

Rogue River

Number	Name	Sec.	Twp.	Rge.	Elev.
23G4	Althouse	17	41S	7W	4530
22G6	Annie Spring	19	31S	6E	6018
22G28	Beaver Dam Creek	Unsurveyed			
22G21	Big Red Mountain	31	40S	1W	6500
22G13	Billie Creek Divide	30	36S	5E	5300
22G27	Deadwood Junction	Unsurveyed			
22F19	Diamond-Crater Summit	34	28S	6E	5800
22G14	Fish Lake	3	37S	4E	4865
22G12	Fourmile Lake	9	36S	5E	6000
23G3	Grayback Peak	9	40S	5W	6000
23H1	Hazel View (Cal)	9	48N	4E	2500
22G17	Hobart Lake	17	40S	3E	5010
22G26	Howard Prairie	32	38S	4E	4500
22G16	Hyatt Prairie Reservoir	15	39S	3E	4900
22G22	Little Red Mountain	25	40S	2W	6500
23G6	Oregon Caves	16	40S	6W	4000
23G5	Page Mountain	8	41S	7W	4045
22G5	Park Headquarters	8	31S	6E	6450
22G29	Rye Spring Spur	Unsurveyed			
22G10	Seven Lakes No. 1	3	34S	5E	6800
22G11	Seven Lakes No. 2	26	33S	5E	6200
22G2	Silver Burn	30	30S	4E	3720
22G20	Siskiyou Summit	17	40S	2E	4630
22G9	South Fork Canal	12	33S	3E	3500
22G18	Wagner Butte	1	40S	1W	6900
22G1	Whaleback	3	31S	2E	5140

Umpqua River

Number	Name	Sec.	Twp.	Rge.	Elev.
22F9	Champion	12	23S	1E	4500
22F18	Diamond Lake	29	27S	6E	5315
23G7	Eden Valley Summit	10	32S	10W	2390
22F16	North Umpqua	19	26S	6E	4215
22F23	Red Butte No. 1	36	27S	2W	4560
22F24	Red Butte No. 2	30	27S	1W	4000
22F25	Red Butte No. 3	Unsurveyed			
22F26	Red Butte No. 4	Unsurveyed			
22F27	Red Butte No. 5	Unsurveyed			
22F28	Red Butte No. 6	Unsurveyed			
22F17	Trap Creek	1	27S	4E	3800
22G1	Whaleback	3	31S	2E	5140
22F15	Windigo Pass	20	25S	6E	5800

KLAMATH WATERSHEDS (10)

Klamath River

Number	Name	Sec.	Twp.	Rge.	Elev.
22G6	Annie Spring	19	31S	6E	6018
22G13	Billie Creek Divide	30	36S	5E	5300
21G5	Bly Mountain	15 & 22	37S	11E	5090
21F11	Chemult	21	27S	8E	4760
22G24	Cold Springs Camp	12	35S	5E	6100
21G12a	Crazyman Flat	9	34S	15E	6100
20H2a	Crowder Flat (Cal)	30	47N	11E	5200
22F19	Diamond-Crater Summit	34	28S	6E	5800
21F18	Diamond Lake Jct. (97)	1	29S	7E	4600
21G6a	Dog Hollow	1	40S	14E	4900
21G14a	Finley Corrals	11	36S	10E	6000
22G12	Fourmile Lake	9	36S	5E	6000
21G4	Gerber	12	39S	13E	4850
22G16	Hyatt Prairie Reservoir	15	39S	3E	4900
22G26	Howard Prairie	32	38S	4E	4500
22G15	Lake of the Woods	11	37S	5E	4960
22G5	Park Headquarters	8	31S	6E	6450
22G25	Pelican Guard Station	9	36S	6E	4150
20G6	Quartz Mountain	2	38S	16E	5320
22G10	Seven Lakes No. 1	3	34S	5E	6800
22G11	Seven Lakes No. 2	26	33S	5E	6200
20H1a	State Line (Cal)	21	48N	11E	5750
20G9A	Strawberry	4	40S	16E	5600
20G2A	Summer Rim	15	33S	16E	7200
21G2	Sun Mountain	22	32S	7½E	5350
20G13a	Sycan Flat	25	31S	14E	5500
21G3	Taylor Butte	16	33S	11E	5100

The California Oregon Power Company's Snow Stations

Number	Name	Sec.	Twp.	Rge.	Elev.
1	Beatty (COPCO)	22	36S	12E	4300
10	Fly 101 Ranch (COPCO)	22	35S	14E	4800
3	Chiloquin (COPCO)	34	34S	7E	4137
4	Crystal (COPCO)	26	34S	6E	4200
5	Fort Klamath (COPCO)	22	33S	7½E	4150
6	Kirk (COPCO)	1	33S	7E	4533
9	Quartz Mountain (COPCO)	33	37S	16E	5504
8	Tomahawk Ski Bowl (COPCO)	3	36S	6E	4200
12	Yamsey (COPCO)	20	31S	11E	4600

LAKE COUNTY, GOOSE LAKE WATERSHEDS (11)

Goose Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
20G15a	Bear Flat Meadow	27	36S	19E	5900
20G8M	Camas Creek	5	39S	21E	5720
20G11a	Cox Flat	16	37S	18E	5750
20G16a	Crane Mountain	13	40S	21E	6020
20H2a	Crowder Flat (Cal)	30	47N	11E	5200
20H3a	Dismal Swamp (Cal)	31	48N	16E	7000
20G17a	Patton Meadow	28	39S	18E	6800
20G6	Quartz Mountain	2	38S	16E	5320
20H1a	State Line (Cal)	21	48N	11E	5750
20G9A	Strawberry	4	40S	16E	5600

Abert Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
20G15a	Bear Flat Meadow	27	36S	19E	5900
20G11a	Cox Flat	16	37S	18E	5750
20G14a	Finley Corrals	11	36S	16E	6000
20G4	Mill Creek	1	34S	17E	6200
20G6	Quartz Mountain	2	38S	16E	5320
20G10a	Sherman Valley	15	37S	21E	6600

Summer Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
20G2A	Summer Rim	15	33S	16E	7200

Silver Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
21F12	Silver Creek	25 & 26	29S	13E	4900
20G13a	Sycan Flat	25	31S	14E	5500

Warner Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
20G8M	Camas Creek	5	39S	21E	5720
20G16a	Crane Mountain	13	40S	21E	6020
20H3a	Dismal Swamp (Cal)	31	48N	22E	7000
19G1a	Hart Mountain	1	36S	25E	6350
20G10a	Sherman Valley	15	37S	21E	6600

Guano Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
19H1	Bald Mountain (Nev)	17	45N	21E	6720
19G1a	Hart Mountain	1	36S	25E	6350
19H4a	Little Bally Mtn. (Nev)	8	45N	19E	6600

HARNEY BASIN WATERSHEDS (12)

Silvies River - Silver Creek

Number	Name	Sec.	Twp.	Rge.	Elev.
18F7a	Call Meadows	29	20S	33E	5340
19F2	Delintment Lake	28	19S	26E	5600
19F3	Emigrant Butte	14	21S	27E	5000
18F3	Idlewild Camp	27	20S	31E	5200
19E9	Izee Summit	28	16S	29E	5293
18F1	Rock Spring	23	18S	32E	5100
19F1M	Snow Mountain	1	19S	26E	6300
19E7M	Starr Ridge	20	15S	31E	5150
18F4M	Stinking Water	33	21S	34E	4800
19F4m	Willow-Bald	19	22S	29E	5000

Donner Und Blitzen River

Number	Name	Sec.	Twp.	Rge.	Elev.
18F6a	Buck Pasture	21	29S	35E	5700
18G2MA	Fish Creek	4	33S	33E	7900
19G1a	Hart Mountain	1	36S	25E	6350
18G1MA	Silvies	35	32S	32½E	6900
18G7a	"V" Lake	31	35½S	32½E	6600

Trout and Whitehorse Creeks

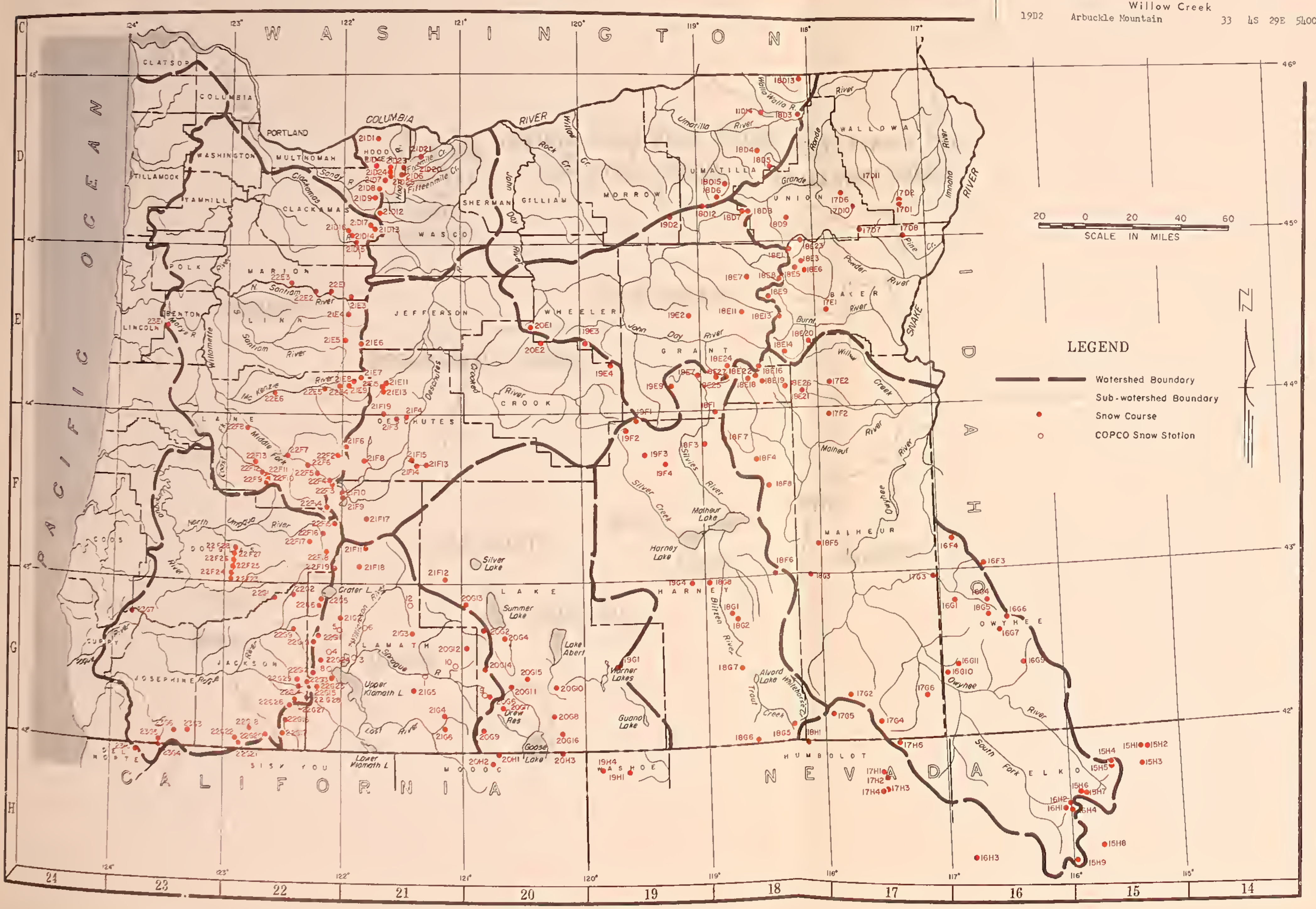
Number	Name	Sec.	Twp.	Rge.	Elev.
18G6a	Denio Creek	14	41S	34E	6000
15H1	Disaster Peak (Nev)	8	47N	34E	6500
17G5a	Oregon Canyon	9	40S	40E	6950
18G5a	Trout Creek	10	41S	38E	7800

Harney Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
18G8	Buckskin Lake	Unsurveyed			
19G4	Foster Flat	Unsurveyed			

LEGEND

19D2	SNOW COURSE ONLY
19D2M	SNOW COURSE AND SOIL MOISTURE
19D2MA	SNOW COURSE SOIL MOISTURE AND AERIAL MARKER
19D2A	SNOW COURSE AND AERIAL MARKER
19D2m	SOIL MOISTURE ONLY
19D2a	AERIAL MARKER ONLY



Map and Index to OREGON SNOW COURSES

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE M-1874
7-S-19101-0

The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE
- Idaho Cooperative Snow Surveys
- Nevada Cooperative Snow Surveys
- Oregon Agricultural Experiment Station
- Oregon State Engineer and Corps of State Watermasters
- Oregon State Highway Engineers
- Soil Conservation Districts of Oregon

COUNTY
- Douglas County Water Resources Survey

FEDERAL
- Department of Agriculture
  - Cooperative Extension Service
  - Forest Service
  - Soil Conservation Service
- Department of Commerce
  - Weather Bureau
- Department of the Interior
  - Bonneville Power Administration
  - Bureau of Land Management
  - Bureau of Reclamation
  - Fish and Wildlife Service
  - Geological Survey
  - National Park Service
- Department of National Defense
  - Corps of Army Engineers

PUBLIC UTILITIES
- California-Pacific Utilities Company
- Pacific Power and Light Company
- Portland General Electric Company
- The California Oregon Power Company

MUNICIPALITIES
- City of Baker
- City of La Grande
- City of The Dalles
- City of Walla Walla

IRRIGATION DISTRICTS
- Arnold Irrigation District
- Associated Ditch Companies
- Burnt River Irrigation District
- Central Oregon Irrigation District
- East Fork Irrigation District
- Grants Pass Irrigation District
- Jordan Valley Irrigation District
- Lakeview Water Users, Incorporated
- Medford Irrigation District
- North Board of Control - Owyhee Project
- North Unit Irrigation District
- Ochoco Irrigation District
- Rogue River Valley Irrigation District
- South Board of Control - Owyhee Project
- Squaw Creek Irrigation District
- Talent Irrigation District
- Tumalo Project
- Vale-Oregon Irrigation District
- Warmsprings Irrigation District

PRIVATE ORGANIZATIONS
- Amalgamated Sugar Company
- The Crag Rats, Hood River, Oregon

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SOIL CONSERVATION SERVICE
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Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"The Conservation of Water begins with the Snow Survey"